

**CAUGHT IN THE CROSSFIRE: STRATEGIES OF MULTINATIONALS IN
HOST COUNTRIES AT WAR**

A Dissertation

by

LI DAI

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

December 2011

Major Subject: Management

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Chair of Committee,	Lorraine Eden
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ABSTRACT

Caught in the Crossfire: Strategies of Multinationals in Host Countries at War.

(December 2011)

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Chair of Advisory Committee: Dr. Lorraine Eden

This dissertation examines the strategic choices of multinational enterprises (MNEs) in host countries that become engaged in war. By combining the resource-based view and resource management theory, and drawing additional insights from research on real options and foreign strategic exit, I link the costs attributable to war to the strategic responses of the MNE at the subsidiary level in a novel firm-vulnerability framework. In particular, I develop theory regarding *whether* a subsidiary will exit from a host country, and if so, the *timing* (early or late) and *mode* (whole or partial) of exit.

I test my hypotheses on a sample of 626 subsidiaries from 386 Japanese MNEs representing 51 industries in 23 countries at war, both interstate and civil, over the period 1988 to 2006. In analyzing the exit likelihood and timing decisions with time-varying covariates, I employ an extended Cox proportional hazard model, which allows for random-effects modeling of predictor variables at the subsidiary, parent MNE, and host country levels. To determine the exit mode of subsidiaries that choose exit over staying, I use binomial logit models. To correct for potential sample selection bias, I replicate my exit mode results with a Heckman probit model. My findings suggest that

increasing strategic flexibility can counterbalance the potential disadvantages associated with leveraging strategically salient resources in high-risk locations.

In examining war as a broad-based perturbation capable of destroying not only institutionalized values, but also the physical infrastructure and human capital of firms, this dissertation empirically demonstrates how political violence influences the strategies of MNEs. Furthermore, my interdisciplinary approach in integrating theoretical lenses from climate change and natural environment sustainability with existing management literatures to examine the effect of war on firms serves to enhance our understanding of individuals and collectives in extreme conditions.

DEDICATION

To my Parents

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TABLE OF CONTENTS

	Page
ABSTRACT.....	iii
DEDICATION	v
ACKNOWLEDGEMENTS	vi
TABLE OF CONTENTS.....	ix
LIST OF FIGURES	xii
LIST OF TABLES	xiii
CHAPTER I INTRODUCTION AND RESEARCH OBJECTIVES.....	1
Motivations and Research Questions	1
Overview of the Research Method.....	7
Expected Contributions of the Dissertation	7
Organization of the Dissertation	11
CHAPTER II LITERATURE REVIEW.....	12
Political Risk and Political Violence	12
MNEs in War Zones	19
Foreign Strategic Exit	23
Resource-Based View	32
Resource Management Theory	37
Conclusion	41
CHAPTER III THEORY DEVELOPMENT.....	42
Key Theoretical Concepts	42
War as threat.	43
Vulnerability.	43
Perceived versus actual vulnerability.	44
Exposure.	47
Irreplaceable and immobile resources and resource management capabilities.	48
Coping mechanisms.	50
Summary.	52
Anticipation in the Pre-War Period.....	53

	Page
Threat.....	60
Exposure	61
Resources.....	66
Irreplaceable resources.....	70
Immobility resources.	76
Resource Management Capabilities	83
Structuring capabilities.....	87
Bundling capabilities.	89
Deployment capabilities.....	91
Coping Mechanisms	93
Local embeddedness.....	96
War zone experience.....	98
Conclusion	101
 CHAPTER IV RESEARCH METHODOLOGY.....	 102
Data and Sample.....	102
Measures: Dependent Variables	105
Exit Likelihood.....	105
Exit Mode.....	106
Measures: Independent Variables – Threat and Exposure	107
Threat.....	107
Exposure.	108
Measures: Independent Variables – Subsidiary At-Risk Resources	109
Irreplaceable resources.....	110
Immobile resources.....	111
Measures: Independent Variables – Resource Management Capabilities	112
Structuring capabilities.....	112
Bundling capabilities.	113
Deployment capabilities.....	113
Measures: Independent Variables – Coping Mechanisms.....	114
Subsidiary-level coping mechanisms.	114
Parent-level coping mechanisms.....	115
Measures: Control Variables (Subsidiary and Parent-Level)	116
Ownership.....	116
Subsidiary age.	116
Subsidiary size.....	117
Subsidiary performance.....	117
Peer exits.....	118
Parent size.	118
Measures: Control Variables (Host-Country Level).....	119
Statistical Methods: “Whether to Exit” and “When to Exit”	120

	Page
Statistical Methods: “How to Exit”	123
CHAPTER V RESULTS	125
Exit Likelihood and Timing	125
Practical Significance: Exit Likelihood and Exit Timing Results	133
Exit Mode	135
Practical Significance: Exit Mode Results	138
Robustness Checks and Post Hoc Analysis	142
Heckman Sample Selection Model	146
CHAPTER VI DISCUSSION AND CONCLUSION.....	151
Managerial Implications.....	159
Policy Implications	163
Limitations and Future Directions	164
REFERENCES.....	172
APPENDIX A.....	207
APPENDIX B	214
VITA... ..	237

LIST OF FIGURES

	Page
FIGURE A1. Model of MNE Strategic Choices in Response to War	207
FIGURE A2. Theoretical Model of MNE Subsidiary Exit Strategy in War	208
FIGURE A3. Comparison of Decision Trees without and with Anticipation	209
FIGURE A4. Venn Diagram of Resource Dimensions in Extreme Contexts	210
FIGURE A5. Hazard Function Graph for Exposure Variable.....	211
FIGURE A6. Hazard Function Graph for Immobile Resources Variable	212
FIGURE A7. Hazard Function Graph for Embeddedness Variable	213

LIST OF TABLES

	Page
TABLE B1. Typology of MNE Exit from a Warring Country	214
TABLE B2. Typology of Resources in Extreme Contexts	215
TABLE B3. Possible Errors in the Strategic Exit Choice under Uncertainty	216
TABLE B4. Descriptions of Wars in the Study	217
TABLE B5. Independent Variable Descriptions and Operationalizations ^a	224
TABLE B6. Control Variable Descriptions and Operationalizations ^a	225
TABLE B7. Summary Statistics and Correlations	226
TABLE B8. List of Host Countries Represented in the Study	227
TABLE B9. Most Represented Countries in the Full TK Dataset ^a	228
TABLE B10. List of Industries Represented in the Study	229
TABLE B11. Coefficient Estimates from Extended Cox Proportional Hazard Models	231
TABLE B12. Hazard Ratios from Extended Cox Proportional Hazard Models	232
TABLE B13. Coefficient Estimates from Logit Models with Partial Exit Baseline	233
TABLE B14. Odds Ratios from Logit Models with Partial Exit Baseline	234
TABLE B15. Odds Ratios from Logit Models with Whole Exit Baseline	235
TABLE B16. Exit Mode Heckman Probit Model Results	236

CHAPTER I

INTRODUCTION AND RESEARCH OBJECTIVES

Motivations and Research Questions

The increasing exposure of multinational enterprises (MNEs) to war in host countries forces MNE managers to consider issues far beyond their traditional purview. The 20th century has witnessed enormous losses of life from war, including 38 million direct deaths and 169 million civilian deaths worldwide (Rummel, 1997). In the past 60 years there have been more than 228 wars in 148 locations throughout the world (Uppsala, 2008), where the deaths attributable to civil wars alone were 16 million (Fearon & Laitin, 2003). Since 1991, there have been more than 125 wars resulting in seven million deaths (Smith, 2003). Moreover, according to the Heidelberg Institute for International Conflict Research (HIIK), the number of wars observed per year has risen almost continuously, from 81 in 1945 to 345 in 2008 (HIIK, 2008).

As a form of political violence, war is analogous to revolutions, rebellions, insurgencies, and sustained campaigns of hostilities, all of which can be characterized as political events (Berman, 2000; Campbell, 2002). Exhibiting what North (2005) calls a non-ergodic nature, wars are typically infrequent, episodic and exogenous to the firm, which means that they are extremely difficult for managers of firms to measure or to confront, let alone overcome, by reference to past events and information. The uncertainty inherent in war renders important features of a country less transparent, and more importantly, less predictable for firm strategy.

This dissertation follows the style of *Academy of Management Journal*.

Businesses in warring countries face increased obstacles in production and higher operating costs. Characterized by destructive impact on property and employees (Getz & Oetzel, 2009), the experience of operating in a war zone also involves supply chain disruptions, infrastructure damage in terms of roads, power, transport links and public and private buildings, and increased ethnic, racial and religious tensions at the workplace. Moreover, war generates pervasive uncertainty, which can destabilize governments, reducing their ability to guarantee contracts, increasing their incentives to impose exorbitant taxes, and leaving them vulnerable to be overthrown by regimes that may threaten to renegotiate the terms under which firms operate (Marcus, Islam, & Moloney, 2008). Moreover, foreign MNEs in war zones are subject to uncertainty associated with whether the host government will terminate programs on war-related grounds (Lenway & Murtha, 1994). Finally, in addition to the need to hire private security to protect personnel and property, foreign MNEs may undergo speculations about their complicity in exacerbating wars,¹ with negative implications for their reputation.

Despite the externalities associated with war, foreign MNEs continue to operate in warring countries, examples of which include but are not limited to Algeria, Angola, Burma, Colombia, Ethiopia, Eritrea, Georgia, Indonesia, Nigeria, Pakistan, Peru, the Philippines, Rwanda, Sri Lanka, Sudan, and Thailand (Asiedu, 2002; Berman, 2000; Campbell, 2002; Frynas & Mellahi, 2003; Kobrin, 1978). War in El Salvador in the 1980s did little to hinder FDI (Robock & Simmonds, 1989), and Haiti has also continued to receive FDI despite intermittent war over the past 20 years (Mihalache, 2008).

¹ Prominent examples include Talisman in Sudan, Shell and Glencore in Nigeria and Coca Cola in Colombia.

Similarly, the U.S., Germany, India, Pakistan, and the U.K. have invested heavily in war-torn Afghanistan.² Furthermore, while the least developed countries are plagued by wars (Cramer, 2006), FDI in these countries increased from 1.6% to 11% during the 1990s (UNCTAD, 2006). Moreover, the mode of entry into such countries for more than 90% of the FDI flow increase from \$0.6 billion in 1990 to \$5.2 billion in 1999 was greenfield investment rather than cross-border mergers and acquisitions.

Contrary to conventional wisdom, foreign MNEs continue to be not only active but increasingly more so in warring countries, despite the long-held consideration of political events by MNE managers to be one of the most important factors in decisions related to FDI (Aharoni, 1966; Bass, McGregor, & Walter, 1977; Kobrin, Basek, Blank, & La Palombara, 1980; Nigh, 1985). Indeed, MNE managers surveyed by the Economic Intelligence Unit (EIU) in 2007 perceived higher political risk on investment activities, with almost half citing political risk, as opposed to corruption and infrastructure bottlenecks, as their main investment constraints in host countries. Furthermore, more than 90% of the MNE managers expected these risks to increase moderately or substantially from 2007 to 2012 (EIU, 2007).

Although war is expected to produce instability that reduces foreign investments (Crenshaw, 1991), the political outlook and policy volatility as perceived by the MNE may lead to more nuanced outcomes. For instance, Chinese state-backed MNEs in Africa with mandates such as resource extraction for the home country may purposefully invest in resource-abundant yet politically violent countries (Biggeri & Sanfilippo, 2009).

² For instance, a U.S. Government agency provided a \$9.2 million loan to Afghan-American business men to establish a manufactured beverage facility in warring Afghanistan (OPIC, 2004).

Indeed, while 44% of respondents to the EIU survey found the costs of political violence to be prohibitive, 30% indicated almost no preoccupation with the consequences of violence for their operations, and the remaining 26% considered political violence risk moderately threatening (EIU, 2007). Because MNE managers vary in the extent to which they perceive war as a threat, there should be differences in MNE responses to the breakout of war. As such, it is necessary to determine the conditions under which war affects foreign investments in the host country and examine MNE strategic responses.

I focus on civil and interstate war in examining the impact of political violence on strategies of foreign MNEs in host countries.³ Frynas and Mellahi (2003: 541) point out that “noncommercial risks such as war are important elements of risk management in FDI, which is reflected in the extensive literature on forecasting and managing political risk” (Ghadar, Kobrin, & Moran, 1983; Herring, 1983). However, the importance of war as a unique form of political risk has not been recognized in the business literature. Furthermore, there are significant implications from neglecting to examine the phenomenon of MNEs “caught in the crossfire”, or those faced with ex-post exit/stay rather than ex ante entry decisions.

The purpose of this dissertation is to introduce a parsimonious framework that predicts firm strategies in responding to war so as to further our understanding of *whether*, *when* and *how* MNE subsidiaries will exit from a warring host country. In theorizing on exit timing and mode, I address the questions of whether MNEs *should* and whether they *can* exit. To develop arguments regarding the strategic responses of MNEs

³ Other forms of violence, including coup d'états, terrorism, civic disobedience, strikes, and other forms of industrial protest are excluded because of their *non-governmental* nature (Ting, 1988).

in warring countries at the subsidiary level of analysis, I integrate extant theoretical perspectives such as the resource-based view, resource management theory, and real options theory with insights from the literatures on natural environment sustainability and foreign exit.

I build a theoretical model of the strategic responses of foreign MNEs that already have operations when war occurs. This is an important area of inquiry because relative to domestic firms that have more legitimacy in the host country, the “caught in the crossfire” subsidiaries of foreign MNEs may be more vulnerable to political shifts.⁴ While firms considering investing in warring countries may predictably opt to “wait and see”, incumbent war zone firms face the dilemma, both economic and logistic, of whether to exit given their sunk costs. I thus focus on the subsidiary’s exit decision rather than the often-studied decision of entry into politically risky contexts (Delios & Henisz, 2000, 2003a, 2003b; Kobrin et al., 1980).

While empirical work from the domains of economics and political science recognize the impact of war on the macro economy (Caruso, 2007; Guidolin & La Ferrara, 2007), FDI (Biglaiser & DeRouen Jr, 2007; Li, 2006; Li & Vashchilko, 2010), and stock market reactions (Schneider & Troeger, 2006; Wolfers & Zitzewitz, 2004), it is not clear that wars affect the strategies of firms. Although the magnitude of a war’s impact on firms can be attributed to the associated political hazards, wars exert an additive, independent effect on firm operations and decisions. Given that political

⁴ While MNEs in certain industries may adopt strategies in order to profit from wars, I study only non war-profiteering MNEs. Also, although the strategic decisions of domestic firms in the host country are relevant, and may influence the decision-making of foreign firms, I consider them as peripheral to my main research questions.

hazards constitute significant deterrents for investment even allowing for facets of attractiveness in a country (Delios & Henisz, 2003a, 2003b; Henisz & Delios, 2001), war warrants consideration in an analysis with other firm-specific, industry-specific and country-specific determinants to inform the research questions that drive this study:

1. Will MNE subsidiaries exit from a country that becomes engaged in war?
2. If exit is chosen, what determines the *timing* of exit (early or late)?
3. If exit is chosen, what determines the *mode* of exit (in part or in whole)?

I focus on war as a form of political violence of relevance to MNE subsidiaries. Whereas previous studies have generally conceived of environmental factors as moderators in the relationship between firm-level variables and outcomes, I turn the problem on its head by establishing as a baseline prediction the negative impact of war on MNE subsidiary exit, and investigating the effects of subsidiary attributes on the *likelihood, timing, and mode* of exit.

Each subsidiary faces a different set of local and global factors that contribute to its decision-making calculus in a unique context characterized by war. As Meyer (1982) points out, a jolt from the environment can evoke different organizational perceptions and elicit different organizational reactions. Because subsidiaries are heterogeneous in their location, business, and a number of other aspects, their strategic responses to war are necessarily heterogeneous. The increasing instances of war in regions where MNEs operate (Jamali & Mirshak, 2010), coupled with the strategically salient and often immobile nature of their operations, make the topic of MNE strategic exit from war zones both timely and multi-faceted.

Overview of the Research Method

I address the research questions using a sample of 626 Japanese MNE subsidiaries from 51 industries in 23 warring countries from 1988 to 2006. To model time-to-event data, I employ survival analysis, with which I can illustrate how particular circumstances (i.e., war) increase or decrease the likelihood of an event (i.e., exit) occurring. Because of my objective to study the impact of war on existing operations, only wars that occur after the subsidiary has entered the host country are included. Furthermore, subsidiary observations not present in war periods are excluded since I do not focus on the impact of war vs. peace, but rather the effects of various firm-specific attributes on exit during war time. The study is novel in its use of the extended Cox proportional-hazard model, which allows for time-varying covariates typical in longitudinal studies to influence the exit outcomes and random-effects modeling of predictor variables at the subsidiary, MNE, and country levels (Singer & Willett, 2003).

Expected Contributions of the Dissertation

The study of war, in conjunction with firm-level attributes, has the potential to shed light on how political contexts and environmental shifts affect MNE strategy. Scholars have examined the effect of industry structure, strategic predisposition, and political embeddedness on firm responses to political risks in the international business environment (Jacobson, Lenway, & Ring, 1993; Ring, Lenway, & Govekar, 1990). Previous studies of exogenous shocks have focused on institutional upheaval (Roth & Kostova, 2003), institutional policy reforms (Chung & Beamish, 2005), institutional hazards (Slangen & Beugelsdijk, 2010), or economic crises (Chung, Lee, Beamish, &

Isobe, 2010; Lee & Makhija, 2009). My first contribution lies in being possibly one of the first empirical studies in the management literature to examine an environmental shock that can destroy not only the institutionalized norms fundamental to social dynamics in firms, but also their physical infrastructure and human capital.

Since extreme consequences from war can evoke strategic responses at the firm level illuminating for the dynamics of international business, I take a first step in theoretically quantifying the effect of wars on MNEs across countries. Drawing on the literature on natural environment sustainability, wherein theories on disruptive climate change may best capture the largely unpredictable and uncontrollable nature of occurrences such as war, I develop a detailed conceptualization of MNE strategy with respect to foreign exit from discontinuous environments. In particular, I integrate the concepts of exposure and vulnerability, which have been widely applied in various contexts to explain system susceptibility to exogenous events with destructive outcomes. By leveraging far-apart areas of research with compatible underlying assumptions, I am able to develop theory robust to the relaxing of certain assumptions as well as pinpoint the limitations of such new theory (Okhuysen & Bonardi, 2011).

Second, in delineating the firm characteristics that factor into the strategic responses of foreign MNEs to war, I extend the resource-based view, which was founded on the idea that organizational resources that are valuable, rare, difficult to imitate and non-substitutable can yield sustained competitive advantage (Barney, 1991). While the resource-based view explains growth and diversification, I build on an emerging area of research on the resource-based theory of divestment (Mahoney & Pandian, 1992;

Moliterno & Wiersema, 2007). In keeping with recent strategy-based approaches (Li, Tallman, & Ferreira, 2005), I highlight key components of international strategy – location (i.e., the exposure of the subsidiary to war is a function of its relative location to the violence), resources/capabilities (i.e., irreplaceable and immobile resources and adaptive capabilities), and structure (i.e., the MNE as a portfolio of real options with the subsidiary as a real option) – in explaining the ability (or inability) of subsidiaries to respond strategically to environmental shocks.

In explicitly taking into consideration war, my dissertation incorporates insights from the resource-based view and resource management theory (Barney, 1991; Sirmon, Hitt, & Ireland, 2007; Wernerfelt, 1984) to predict the attributes of resources that would, in the process of generating competitive advantages, also prove fatal to MNEs in the presence of external shocks. Although war undoubtedly affects the ability of subsidiaries to appropriate value from resources, I attribute exit to firm idiosyncrasies in resources rather than the war itself. Because most resource-based view research has focused on the positive effects of resources on firm outcomes, demonstrating negative effects within this framework would serve to cross-validate its theoretical value (Armstrong & Shimizu, 2007).

Third, while scholars have begun to pay more attention to strategic exit in the international business literature (Barkema, Bell, & Pennings, 1996; Benito, 1997a, 1997b, 2003; Boddewyn, 1979, 1985; Larimo, 1997; Li, 1995; Mata and Portugal, 2000; Shin, 2000), there is almost no research on the timing of exit. In addition, exit is typically depicted as a dichotomous phenomenon even though MNEs in reality employ a

host of partial exit strategies (Simões, 2005). Given its high visibility and importance to an MNE's competitiveness and profitability, foreign exit constitutes a critical decision with both short-term and long-term implications, especially in a highly volatile context. An improved understanding of the exit decision in extreme conditions should not only contribute to a more complete theory of internationalization, but also yield insights for minimizing costs imposed by exogenous events in the MNE's operating domain.

The focus in the exit literature has been on determinants of exit, overlooking the exit process and longitudinal perspectives (MacLachlan, 1992; Pike, 2003), both of which are central in this work for unraveling over time the MNE's strategic responses to war in the host country. Furthermore, my work seeks to address the insufficient consideration of environmental factors and subsidiary-level attributes in studies of exit (for exceptions, see Celly & Beamish, 2010; Simões, 2005). By incorporating the resource-based view with real options theory, I theorize on the impact of resource endowments and deployments on both the timing and mode of subsidiary exit (Rivoli & Salorio, 1996; Tong & Reuer, 2007). As the theory of organizational decline is relatively underdeveloped compared to the theory of firm growth (Sutton, 1990), using the resource-based view to predict foreign exit makes a contribution to the exit literature.

Finally, this dissertation contributes a number of empirical innovations to the literature. Given the relatively recent development of resource management theory (Sirmon et al., 2007), I take a first step in empirically testing novel constructs for this framework in the international context. In addition to examining the impact of wars on MNE subsidiaries at the country level, I develop a fine-grained measure of the

geographic proximity of the subsidiary relative to the exact location of the war within the host country. Using geographic information system (GIS) latitude and longitude data, I am able to also model firm actions at the sub-national level. To account for the effect of time-varying firm-specific attributes on the exit decision, I employ an extended version of the Cox proportional-hazard model.

Organization of the Dissertation

The remainder of the dissertation is organized as follows. Chapter II presents a brief literature review of topics and theories relevant to the dissertation: political risk in international business, MNEs in war zones, foreign exit, the resource-based view, and resource management theory. In Chapter III, I develop a theoretical framework of MNE strategic responses to war, with emphasis on the likelihood, timing, and mode of exit. Chapter IV presents the research methods, with detailed descriptions of the data and sample, variable operationalizations, and statistical techniques. Chapter V provides an account of the empirical results. Chapter VI offers a discussion of my findings, with theoretical and practical implications, limitations, and avenues for future research.

CHAPTER II

LITERATURE REVIEW

The objective of this chapter is to provide a review of extant research that can inform on the topic of MNE strategic responses during war. I review relevant research streams related to political risk in the first section, MNEs in warring environments in the second section, foreign exit and divestment in the third section, and the resource-based view and resource management theory in the final section.

Political Risk and Political Violence

As one of the key objectives of MNEs (Ghoshal, 1987), risk management is concerned with the assessment and avoidance of threats. In contrast, crisis management focuses on the management of threats after their occurrence. As low probability/high consequence events that threaten the most fundamental goals of an organization in defying *ex-ante* anticipation and *ex-post* responses (Weick, 1988), wars are quintessential crises. However, while research on crisis management largely focuses on endogenous crises with firms as instigators, wars constitute exogenous crises that generally affect firms in a top-down fashion.

The two most widely cited sources of war data, the Correlates of War (COW) dataset as well as the Uppsala Conflict Data Program (UCDP) dataset, both define wars in terms of battle-related death thresholds, the former at 1,000 battle-deaths, and the latter at 25 (Gleditsch, Wallensteen, Eriksson, Sollenberg, & Strand, 2002; Sarkees, 2000). Furthermore, wars can be broadly categorized into interstate wars, in which a state that qualifies as a member of the interstate system is engaged in a war with another

member of the system, and civil wars, which entail ongoing rather than discontinuous conflict involving two or more groups within the internationally recognized territory of a state (Sarkees, 2000). Unlike other types of violent conflict involving civil contingents (e.g., extra-systemic wars and terrorism), both interstate and civil wars engage state governments, consistent with the domain of this study on *political* violence. I exclude from my analysis terrorism, which is less predictable and more fleeting than sustained violence from war, and therefore less likely to invoke firm-level responses.

A few differences between interstate and civil wars should be noted. First, interstate wars are typically shorter and more discontinuous than civil wars, 25% of which between 1945 and 1999 lasted two years or more and another 25% for 12 years or more (Fearon, 2004). While discontinuous risks in the form of interstate war are relatively rare, difficult to prevent, and often devastating in their effects, civil wars are often highly intractable and exacerbated by parties with vested interests (Hironaka, 2005). Second, interstate wars usually have higher fatality rates than civil wars (Sarkees, 2000), which may render them more salient in firm strategic decisions. Third, due to the nature of their disputes on territory, interstate wars are more likely than civil wars to be confined to a particular region (Swanson, 2002), while civil wars often involve disputes over resource allocation, the geographic scope of which is less predictable.

From a macro perspective, scholars have detected a temporal effect of war on economic outcomes. Li (2006) found that changes in investment decisions can occur before political violence even materializes, as an unanticipated interstate war reduces the chance that a country will be chosen as an investment location. Fitzgerald and Grigsby

(2001) estimated that, over the years of the most intense conflict in Nicaragua (1987 to 1989), the total economic damages were equal to a year's GDP. According to Collier, Elliott, Hegre, Hoeffler, Reynal-Querol, and Sambanis (2003), war has lasting effects on FDI – by the end of the first decade of post-conflict peace in civil war countries, capital flight rose to 26.1%. Evidently, war delivers an initial shock to the regulatory and cultural infrastructure that persists indefinitely, with implications for firms.

The international business literature highlights three major risks that firms encounter abroad, which include the type of commitment (Ghemawat, 1991), the proportion of revenue exposed (Miller, 1992), and political risks (Kobrin et al, 1980), all of which are intensified in contextual shifts such as war. While risk in the strategic management literature generally refers to potential downside variability in firm performance (Bromiley, Miller, & Rau, 2001), firms are also faced with, in addition to *ex-ante* unpredictability, *ex-post* volatility from extraneous shocks in the environment. Furthermore, the main focus in both literatures in terms of context is on environmental uncertainty or munificence (Castrogiovanni, 1991; Rajagopalan, Rasheed, & Datta, 1993), with less attention paid to environmental hostility.

Miller and Reuer (1996) point out that firms are not concerned simply about uncertainty *per se*, but also about minimizing the possibility of below target performance. Despite this, much of the prior work in management has neglected to examine firm strategy in conditions of unanticipated environmental downturns, and has instead been concerned with a general notion of uncertainty (Allen & Pantzalis, 1996; Rangan, 1998; Rivoli & Salorio, 1996; Tang & Tikoo, 1999). As a pervasive type of environmental

hostility for today's far-reaching MNEs, political risk is the risk of incurring investment losses abroad as a result of changes in the host country's political structure or policies regarding tax laws, tariffs, expropriation, repatriation of profits, or *episodes of political violence* (Ferrari & Rolfini, 2008).

Political violence refers to politically motivated acts of *war* or civil disturbance in the host country, including revolution, insurrection, coups d'état, sabotage, and terrorism (Hamada, Haugerudbraaten, Hickman, & Khaykin, 2004). Along with expropriation risk and transfer risk, risk of political violence has been identified as one of three types of political risks that, as a function of decisions, conditions or events of a political nature, can result in substantial financial loss or physical damage for firms. Although scholars have examined other types of political risk commonly encountered by MNEs, the mass destruction to both physical and human capital that can arise from war as a form of political violence risk has been hitherto overlooked.

Even as many scholars recognize that exposure and vulnerability to political violence is idiosyncratic across firms, projects, and even product lines (cf. Moran, 1983; Wells & Gleason, 1995), much of the extant research on war is at the country level. Due to an increase in the number of wars in recent years and the dismal economic performance of many war-ridden countries, the impact of war has begun to receive attention in the economics literature (Caruso, 2007; Collier & Hoeffler, 1998; Guidolin & La Ferrara, 2007), event studies on stock reactions (Guidolin & La Ferrara, 2005; Rigobon & Sack, 2005; Schneider & Troeger, 2006; Wolfers & Zitzewitz, 2004), and research on FDI (Alesina & Perotti, 1994; Biglaiser & DeRouen Jr., 2007; Blanton, 2000;

Li, 2006; Li & Vashchilko, 2010; Mansfield & Pollins, 2001; Polachek, Seigle, & Xiang, 2007; Svensson, 1998) and trade (Barbieri & Levy, 1999; Gowa & Mansfield, 1993; Hegre, 2004; Keshk, Pollins, & Reuveny, 2004; Levy & Barbieri, 2004; Mansfield & Pevehouse, 2000; Polachek, 1980; Pollins, 1989a, b).

In macro-level research, the liberalist view of trade and war holds that trade and private investments can promote peace (cf. Biglaiser & DeRouen Jr., 2007; Hegre, 2000, 2004; Koerber & Fort, 2008; Levy & Barbieri, 2004; Polachek & Seigle, 2007). Liberalist scholars suggest that with greater foreign trade and investment, there is less incentive to achieve national interests through the use of war (Rosecrance, 1986). Moreover, trade is believed to stimulate communication between governments and private actors in different countries that in turn foster political cooperation (Hirschman, 1977; Stein, 1993). Polachek (1980) analyzed the relationship between annual bilateral trade flows and the extent of interstate conflict for 30 countries from 1958 to 1967 to conclude that trade and conflict were inversely related, providing evidence for the liberal view that trade fosters peace. More recently, countries have been found to sustain national wealth accumulation from trade through co-operative means that foster peace (Polachek et al., 2007). If the assumption that trade depends on peaceful interstate relations holds (Marcus et al., 2008), then war should affect business exchanges.

Realists challenge liberalist views on the relationship between commercial relations and war. They advocate military expansion for reducing a country's economic vulnerability, and argue for limited dependence on foreign commerce, which undermines national political power (Gilpin, 1981; Liberman, 1996). Gowa and Mansfield (1993)

and Gowa (1994) argue that countries can address the security externalities stemming from commerce by trading more with their allies than with enemies. While it is widely argued that war dampens trade between belligerents, Barbieri and Levy (1999: 465) note that “Six days after Pearl Harbor, a U.S. presidential edict created legislation for the granting of licensing arrangements for trading with the enemy, and there are countless examples of U.S. firms doing business in strategic goods with Nazi Germany.” Taken as a whole, however, wars significantly reduce international trade and commerce between combatant countries and throughout the world (Gowa & Mansfield, 1993).

Besides looking at the relationship between war and trade, political science scholars have also investigated the effect of war on FDI. Under increased uncertainty, investors increase the risk premium on investments, which should reduce overall investment flows in war (Staley, 1967). Moreover, wars have a strong negative impact on a country's growth rate (Alesina, Spolaore, & Wacziarg, 2003), which generally reduces inward investment. Examining the role of dyadic political relations on investment flows, Nigh (1985, 1986) showed that the degree of conflict characterizing the relationship between the U.S. and potential host countries influenced the magnitude of U.S. FDI into those countries. The demonstrated effect of troop deployments in a host country provides evidence that security, or “follow the flag”, factors influence both the short-term and long-term investments in a country (Biglaiser & DeRouen Jr, 2007; Little & Leblang, 2004). Furthermore, Biglaiser and DeRouen Jr (2007) find that security factors affect FDI in two stages: the initial decision over whether to invest and the second decision on the amount to invest, which models an earlier effort by Li (2006).

In an innovative study, Li (2006) distinguishes the separate effects of three types of political violence (civil war, interstate war, and transnational terrorism) on two distinct but related decisions: the investment location choice and the investment amount. More recently in the international business literature, Li and Vashchilko (2010) examine the influence of state alliances and political-military conflict on bilateral investment flows, arguing that alliances should promote FDI for the same reasons that security groupings promote trade. They also argue that political-military hostilities lead both investors and governments to take actions that reduce bilateral investment flows. Arguments are tested using cross country-pairs consisting of 58 OECD and lower-income states from 1980 to 2000. They find that interstate political violence have a weak influence on FDI, as do alliances, although defense pacts – which provide the strongest security guarantees to contracting parties – significantly increase overseas investment.

In the international context, extant research on political risks has shed light on the types of hazards that may arise from a host country government's actions or inactions, as well as on their evolution over time (Boddewyn & Brewer, 1994; Delios & Henisz, 2000, 2003a, 2003b; Henisz, 2000a, 2000b; Henisz & Delios, 2001; Henisz & Zelner, 2004). While this stream of research has generated insights into MNEs' strategic responses to political risks, it has generally assumed that the host government has the capacity, resources, and willingness to influence destructive activities within its borders (Getz & Oetzel, 2009). However, governments in warring countries may not only lack the power to resolve the war, but often overtly or covertly fuel the war, making political violence unique as a form of political risk. Furthermore, discontinuous events such as

war are often considered to be outside of the control of top management and thus redundant for analysis.

MNEs in War Zones

The literature on the influence of political hazards on firms has tended to focus on FDI entry location, entry mode, or entry rates, without having considered the effect of political hazards on firm exit (for an exception, see Henisz & Delios, 2004). A nascent area of research on business response to violent conflict has begun to investigate MNEs in war zones (Fort & Schipani, 2004; Jamali & Mirshak, 2010; Kolk & Lenfant, 2009; Oetzel, Getz, & Ladek, 2007; Wenger & Mockli, 2003), focusing on the normative aspect of their roles. MNE decision-making in this context is largely examined only to the extent that it provides incriminating evidence of the negative influence of MNEs in war zones or highlights the limitations of policy instruments that support a positive role of MNEs in conflict intervention.

For example, in Colombia, Angola, Nigeria, the Democratic Republic of Congo, Sudan, the Caucasus, Myanmar, and elsewhere, MNEs have been examined for their complicity in civil war through the extraction of natural resources such as oil, natural gas, timber, diamonds, and other precious metals (Patey, 2006). Related work exists on countries with a “resource curse”, which suffer from civil wars because of their relative abundant endowments of natural resources (Guidolin & La Ferrara, 2005; Hook & Ganguly, 2000; Ross, 2004). As a whole, this literature focuses on the exacerbating effects of MNEs on civil wars in host countries (Swanson, 2002), often in the form of

case studies (Hadjikhani & Sjögren, 1995), to the neglect of theorizing on the reverse impact of wars on MNEs.

More recently, the political economy literature has outlined numerous dynamics between commerce and war at the firm level (Møller, 2005). Keen (2008) argued that while war on the whole tends to inhibit production and reduce local demand, different types of firms have different reactions to war. The majority of firms, such as those in industrial production, and most services, including tourism, are negatively affected by war. A second category of business activities, including the exploitation of low-tech, high value commodities like alluvial diamonds, is neutral to war. Offshore oil can be exploited during a raging conflict (e.g., in Angola), as can inland oil that is either far from the locus of conflict (e.g., in Algeria's deserts) or protected by military forces (e.g., in Colombia). MNEs exploiting natural resources or engaged in illicit activities may even benefit when war minimizes state control or environmental restrictions. For example, without the disarray in Nigeria's petroleum policy caused by war, Shell may have lost its dominant position in the Nigerian oil industry (Frynas & Mellahi, 2003). Thus, for firms in certain extractive industries, the benefits of war may appear to outweigh the costs (Marcus et al., 2008).

Finally, Keen (2008) identified a third category of business activities that may profit in warring environments. These firms are an influential minority, often with privileged access to the means of violence. For example, without war, Elf-Aquitaine may have faced greater competition from international rivals in West Africa (Frynas & Mellahi, 2003). During war, artificially high prices benefit MNEs in food production,

while increased demand for arms incentivizes MNEs in security and reconstruction to stay. In a well-publicized case, Kellogg Brown & Root (KBR), a subsidiary of Halliburton, received contracts totaling \$3.6 billion in 2004 to rebuild oil infrastructure in Iraq (Glanz, 2005). Other MNEs, including Bechtel, Fluor, and Parsons, have also won large contracts as part of the Pentagon's reconstruction strategy of Iraq (Biglaiser & DeRouen Jr., 2007). Provided that firms can enlist sufficient private security, profits may be higher than normal, reflecting high barriers to entry. Finally, MNEs facing maturity in their domestic markets are also attracted to violence-prone nations where fewer firms mean more opportunities to earn monopoly rents.

In addition to the increased scholarly attention on war and firms, there is a growing practitioner literature that outlines the various risks associated MNE operations in war zones and factors that affect MNE decision-making therein. This literature highlights that, in addition to generic costs/risks considerations, the investment and operational decisions of MNEs in war zones are influenced by various risk factors. These include the geographic impact of the war, the severity of the war, the attitudes and policies of the government and the opposition, and the industry and the investment structure of the MNE (Ballentine & Nitzschke, 2004; Berman, 2000).

Depending on the nature of their industry, MNE subsidiaries can exhibit a spectrum of responses to war in the host country, as summarized in a framework by Wolf, Deitelhoff and Engertl (2007): 1) take advantage, 2) withdrawal, 3) business as usual, and 4) proactive engagement. In another report, Nelson (2000) outlines three strategies for conflict prevention and resolution by firms in war zones, namely: 1)

compliance, 2) risk minimization or ‘do no harm’, and 3) value creation or peace building. Similarly, in an account of oil MNEs’ experiences in Sudan, Patey (2006) described MNEs from China, India, and Malaysia as employing active strategies in providing multi-faceted support for the Government of Sudan (GoS), European MNEs as undertaking passive strategies through nominally constructive engagement, and the Canadian MNE Talisman as assuming a normative strategy in pressuring the GoS to alleviate human rights concerns by altering its tactics in the civil war. The determinants of the various orientations in these works, however, have not been explored systematically, presented in the form of propositions, or tested with regard to their impact, or the conditions under which they may be feasible, appropriate, or effective (Nelson, 2000; Wenger & Mockli, 2003).

Moreover, work to date in this area has treated political violence as a uniform problem, although it varies on several dimensions (Berman, 2000; Wenger & Mockli, 2003). As a consequence, the prevalent view of political violence management in MNEs is, according to Boddewyn and Brewer (1994), a reactive one that ignores the fact that crossing national borders generates additional strategic options. In addition to the focus on extractive industry MNEs, researchers tend to group them as one predictable actor, which promotes the belief that all behavior by MNEs in the same industry is influenced by the same factors (Patey, 2006). Such over-simplification may result in a poor understanding of MNE responses in war zones, and to recommendations that may not be equally applicable in all cases. Focusing on firm heterogeneity with regard to managing political violence should bring the academic literature in line with current developments

in the practitioner world, where political risk consultancies offer firm-specific and project-specific assessments of political risk for clients, in addition to the standard country-specific or sector specific assessments.

Foreign Strategic Exit

While the extant theory explains in depth the extent to which firm-specific and country-specific advantages encourage firms to go abroad, there is less knowledge about the disadvantages, either firm-specific or location-specific, that discourage further investment in the host country. As pointed out by Benito and Welch (1997: 8): “Most of the literature on the international operations of firms has focused on the growth – or positive development – of international business operations”. Furthermore, “while a good deal of research has been devoted to the factors that may influence the choice of foreign operation mode either at the moment of entry into a foreign market or over a period of time, curiously little attention has been paid to the stability or longevity of a chosen operation method” (Benito, Pedersen, & Petersen, 1999: 221).

While we know much about the reasons and processes underlying firms’ internationalization, there are still gaps in our understanding not of only how MNEs deal with adverse conditions on foreign soil, but how they extricate themselves from such situations. Even though work on the liability of foreignness and political risk highlights disabling factors in FDI, these offer more passive accounts of the negative aspects of going abroad than predictive theories of how to manage such factors (Hymer, 1976; Zaheer, 1995). While some institutional theorists argue for the organizational practices of subsidiaries to become isomorphic to the practices of local firms (Powell & DiMaggio,

1991; Rosenzweig & Nohria, 1994; Rosenzweig & Singh, 1991), institutional theory's focus on survival as the dependent variable leaves a theoretical gap as to how MNEs can successfully exit rather than try to survive.

With regard to foreign exit from a host country, definitions range from international divestment and closure (Boddewyn, 1983; Ghertman, 1988) to exit (Karakaya, 2000), failure (Burt, Mellahi, Jackson, & Sparks, 2002), and de-internationalization (Benito & Welch, 1997).⁵ Divestments are defined as a total or partial termination of active foreign operations on an either voluntary or involuntary basis through sale, liquidation, expropriation and/or nationalization (Boddewyn, 1983, Boddewyn & Tornedon, 1973). The literature recognizes two types of divestment. The first, often discussed in economic geography (Clark & Wrigley, 1997; Watts & Stafford, 1986) and corroborated in the international business literature (Ghertman, 1988; Mata & Portugal, 2000), associates divestment with plant closure. The second is related to ownership, wherein Duhaime and Grant (1984: 301) defined divestment "as a firm's decision to dispose of a significant position of its assets". Characterized as the dismantling of an ownership position, this type of divestment does not necessarily entail the end of a firm, which may continue to be active, though under different ownership.

In modeling the mode of exit, I categorize the gradual divestment of capital and downsizing of expatriates as partial exits, and the shutting down of a subsidiary in its entirety as whole exit. Subsidiaries may exit from a war zone for two reasons: 1) to

⁵ It is telling that none of these definitions appear as entries in the otherwise comprehensive index included in Rugman and Brewer's authoritative anthology on the state-of-the-art in IB research (Rugman & Brewer, 2001).

avoid immediate and catastrophic losses, and 2) to minimize losses in order to return to the host country Lazarus-style,⁶ where exit is taken but the firm intends to re-enter the host country at a later date. Since the strategic exit decision of an MNE during war potentially affects ownership, physical assets (i.e., plant and equipment), and human capital, I adopt a broad definition of exit that *includes both the whole and partial divestment of the MNE subsidiary's assets and the whole and partial downsizing of the subsidiary's labor force in the host country*.

Because of the inherent dangers in investing in a volatile environment, an initial decision to invest should be accompanied by an exit strategy arranged in advance. Required investments in order to reap returns may all turn into sunk costs if an exit strategy does not accompany an investment strategy at the outset of an MNE's foray into a foreign country. Indeed, exit has been viewed as a "significant phenomenon" in international business (Boddewyn, 1979), and as being more complicated than the foreign entry process (Nees, 1978). However, studies on divestment (Benito, 1997a; Li, 1995; Shapiro, 1983), closure of foreign units (Mata & Portugal, 2000), relocation (Pennings & Sleuwaegen, 2000), and market exit (Matthyssens & Pauwels, 2000; Welch & Wiedersheim-Paul, 1980) are still relatively scarce.

While several scholars have reviewed the divestment literature – both domestic and foreign – from the industrial organization, finance and corporate strategy perspectives (Benito, 1997a, 1997b, 2005; Benito & Welch, 1997; Chow & Hamilton, 1993), studies on strategic foreign divestment have only recently begun to gather critical

⁶ Lazarus refers to the Biblical Lazarus of Bethany, raised from the dead in the New Testament.

mass. Much of the research on foreign exit adopts a rational economic perspective to model, predict, and explain the occurrence of a firm's exit from international markets (Shapiro, 1993). In addition, studies of divestment in finance have typically examined the effects of divestment decisions on share prices. Evidence suggests that divestments, including domestic and foreign divestitures (Padmanabhan, 1993), usually increase the market value of a company.

According to strategic management scholars, divestment is a necessary component of the product life cycle and one of the processes by which resources are managed (Sirmon et al., 2007). Mata and Portugal (2002) in their comparison of domestic and foreign divestment in Portugal found no significant differences in the exit probabilities of domestic and foreign firms. Divestment is also one of several strategic options for “declining” industries (Davis, 1974). Benito and Welch (1997) suggest that poor foreign market performance, which may be due to import restrictions, competitive action or supplier problems, may lead to divestment. Divestment is advocated as an appropriate route in “end game” situations characterized by high volatility and uncertainty regarding future returns (Benito, 2003), which typify warring contexts.

While economic concerns dominate the rationales provided for foreign divestment (Boddewyn, 1979, 1985), operations may be divested for reasons other than poor performance (Weston, 1989). According to Benito (1997b) and Richbell and Watts (2000), divestment from a foreign country is more likely if: 1) the MNE is diversified and the top managers are geographically or emotionally distant from the subsidiary; 2) the subsidiary is relatively small compared to others; 3) scale economies can be achieved

in transferring the production to another subsidiary with spare capacity; 4) the plant has a smaller range of activities than some other plant; 5) the subsidiary is in a mature industry; 6) the subsidiary has poor performance; 7) there are strategic considerations such as the need to exit from unrelated industries or to focus on core activities; 8) there is low interdependence between units; and/or 9) the home and host countries are culturally distant countries.

Boddeyn (1979) divides the determining factors of foreign exit into seven groups: 1) financial considerations, 2) poor pre-investment analysis, 3) lack of fit and resources, 4) structural and organizational factors, 5) adverse economic conditions, 6) external initiating pressures, and 7) foreignness and national differences. While the first four factors can be attributed to internal deficiencies within the MNE, the last three factors stem from the external environment in the host country. A review of the internal and external environment of decision-making in foreign divestment is provided in Ghertman (1984).

Several studies capture the internal motivations for foreign divestment. MNEs may be inexperienced in selecting *ex ante* where to locate value-adding activities (Anderson, Graham, & Lawrence, 1998), or influenced by the cultural and experiential aspects of operating abroad (Barkema et al., 1996; Hennart, Kim, & Zeng, 1998; Li, 1995; Shaver, Mitchell, & Yeung, 1997). A basic contention in these studies is that, while internationalization exposes firms to an array of difficulties, problems are likely to increase if the subsidiary is in a culturally distant location, if there are few other foreign firms operating in the same country, and/or if the entry is made by acquisition or joint

venture. Barkema et al. (1996) and Li (1995) note that the probability of divestment is higher for joint ventures and acquisitions because they involve “double layered acculturation” with both a foreign corporate culture and a foreign national culture.

In addition to showing that acquisitions do indeed increase exit rates while joint ventures do not, Benito (1997a) also finds that subsidiaries are less likely to be divested if they are closely related to their parent or if economic growth in the host country is relatively strong. In a study by Mata and Portugal (2000) highlighting sell-offs as an alternative exit strategy to closure, acquisitions were found to have higher sell-off rates than greenfield investments. The converse was found to be true for greenfield subsidiaries, which had significantly higher probabilities of being closed down. Similarly, minority joint ventures showed higher sell-off rates than majority ventures and greenfield subsidiaries, but ownership arrangement had no effect on closures. Duhaime and Grant (1984) looked at factors influencing divestment: the strength of the subsidiary divested, its interdependency with other subsidiaries, and the MNE’s financial strength relative to industry averages.

As Mata and Portugal (2000) point out, divestment can also stem from the lack of fit between the subsidiary and the parent. Hennart, Roehl, and Zeng (2002) corroborate that many foreign divestments are not due to poor profitability but to the fact that parent MNEs are either involved in strategic reorientation or winding down operations. While failure-driven divestments may be undertaken normally without repercussions for the MNE, divestments due to re-structuring tend to entail orchestrated maneuvers with consequences for the entire MNE network (Benito, 2003). It is thus unlikely that an exit

from a warring host country is of the strategic re-structuring type, which usually involves numerous corporate units performing different activities in varied locations such that it would defeat the purpose of exiting fast to minimize losses.

External influences on exit may be of an economic nature, as MNEs relocate manufacturing capacity *inter alia* as a response to the escalating cost disadvantages of advanced economies like Belgium (Pennings & Sleuwaegen, 2000) and Japan (Yamamura, Sonobe, & Otsuka, 2003). Other external factors identified include the effects of political and institutional transformation in transition economies such as Poland (Roberts & Thompson, 2003). More recently, Belderbos and Zou (2009) applied a portfolio perspective to study MNE subsidiary divestments as real options, showing that even under conditions of macroeconomic uncertainty, subsidiaries that were deemed to be growth options were not likely to be divested. Their emphasis on the portfolio perspective specifies that a subsidiary's share of an option value declines if it shares the manufacturing platform role with other subsidiaries in the host country, or if macroeconomic conditions of the host country are highly correlated with those of other countries in which the MNE operates subsidiaries.

Research on international divestment tends to focus on divestment activities in manufacturing industries as opposed to service sectors. Furthermore, more attention has been devoted to whole exits rather than partial exits. While studies have generally focused on closures or sell-offs, actual strategic divestments in adjusting the MNE's corporate portfolio tend to be small and gradual (Simões, 2005). For example, a certain entity may be sold off within a larger subsidiary, activities within a subsidiary may be

outsourced, or a particular unit may be closed down or relocated to a lower-cost country. Finally, there is no research that employs comprehensive data covering all sectors of business on foreign exits by MNEs from any major home country (McDermott, 2010).

A related literature on the exit of retailers consists of mostly case descriptions of foreign divestment activity by retailers (Alexander & Quinn, 2002; Burt et al., 2002; Jackson, Mellahi, & Sparks, 2005; Jackson & Sparks, 2005; Palmer, 2004), with limited implications for MNE strategy. In practice, even though exit from a foreign market entails numerous elements both internal and external to the MNE and at multiple levels of analysis (Benito, 1997a; Boddewyn, 1983; Ghertman, 1988), foreign exits are mostly prompted by environmental changes and therefore seldom strategic in nature (Boddewyn, 1983; Sachdev, 1976). As such, there is great need to examine MNE exit strategies in environmental shifts.

The exit strategy is essentially a weak link in an MNE's performance abroad in that choosing the wrong strategy, or poorly implementing a correct strategy, can increase the cost of exit or jeopardize any benefits to be derived from its entire global strategy (Boddewyn, 1983; Chow & Hamilton, 1993; Ghertman, 1988; Nees, 1978; Padmanabhan, 1993). In addition to looking at the motivations to exit in terms of war, I focus on the barriers associated with exit rather than only on the economic incentives to exit, such as low profits or outright losses, which may be due to cost increases, demand decreases, or the influx of aggressive competitors (Siegfried & Evans, 1994).

The idea of barriers to exit has been advanced in the industrial organization field to explain why firms sometimes retain operations that are performing unsatisfactorily,

and/or choose to stay in an industry where average returns are below the market rate of return (Caves & Porter, 1977; Siegfried & Evans, 1994). The existence of asset specificity, as a result of assets that have less valuable alternative uses (Williamson, 1985), constitute a barrier to exit (Caves & Porter, 1976). Empirical evidence suggests that durable and tangible specific assets, such as machinery, would produce sunk costs that discourage exit (Siegfried & Evans, 1994). In addition, intangible assets such as goodwill, advertising and R&D intensity, firm-specific human capital, and even emotional attachment to the firm and/or industry can also act as exit barriers by raising the perceived cost of exit (Benito, 1997a; Caves & Porter, 1976).

Furthermore, early industrial organization work by Caves and Porter (1976) acknowledged the role of management attitudes as a major barrier to divestment, as managers were found to be unwilling to divest if they perceived it to have a negative impact on their careers. Benito and Welch (1997) also contend that when management is committed to what they perceive as a positive trajectory, it may be very difficult for them to make the decision to divest, even under negative circumstances. As such, investments of any sort – whether it is in buildings, machinery, partnerships or human resources training – entail costs that must be forgone if abrupt exit becomes necessary, as in the case of a war. Apart from traditional treatments in economics (Dixit, 1989), and the analyses of related concepts such as consumer switching costs (Klemperer, 1987), barriers to exit (Caves & Porter, 1977), and structural inertia (DiMaggio & Powell, 1983; Hannan & Freeman, 1984), the concept of sunk costs has hitherto received little attention in management literature (see Benito et al., 1999 for an exception).

Despite its gaps, the international exit literature addresses a range of issues. For instance, studies on foreign divestment point to relatively consistent patterns regarding the role of the mode of entry on an MNE subsidiary's terminating processes. As well, findings from the international context suggesting that past commitments act as exit impediments have been corroborated by research from the domestic domain (Chow & Hamilton, 1993; Gilmour, 1973). Notwithstanding the advances in examining foreign exit in response to environmental changes however, there is still ample opportunity to consider the effect of adverse environmental conditions on exit, and particularly in terms of political events. Most importantly, a recurrent theme is that foreign exit should be considered an indispensable strategy in internationalization, which is in turn an integral element of the MNE's overall strategy (Benito & Welch, 1997).

Resource-Based View

The resource-based view of the firm is construed as a theory of competitive advantage. The resource-based view, in conjunction with resource management theory, asserts that the desired outcome of managerial effort within the firm is a sustainable competitive advantage. The resource-based view contends that the source of a sustained competitive advantage is the possession of certain key resources. One of the resource-based view's principal insights is that not all resources are of equal importance or possess the potential to be a source of sustainable competitive advantage. Beyond the static premises of the resource-based view, resource management theory emphasizes that in addition to possessing key resources, managerial capabilities in structuring, bundling,

and leveraging such resources are critical for acquiring and sustaining a competitive advantage (Sirmon et al., 2007).

Firmly grounded in early economic models of monopolistic competition (Chamberlin, 1933), both the resource-based view and resource management theory place primary emphasis on economic rationality as opposed to social or political elements in considering exchanges between the firm and its environment. That is, organizational actors are viewed as rational beings assessing choices and making decisions that maximize self interests. However, in the context of MNE exit during war, rationality may not be at the center of decision-making.

The earliest recognition of the potential importance of firm-specific factors can be found in the work of traditional economists (Chamberlin, 1933; Robinson, 1933). For example, Chamberlin (1933) identified that some of the key capabilities of firms included technical know-how, reputation, brand awareness, the ability of managers to work together and in particular, patents and trademarks, many of which have been revisited in the present-day resource-based view literature and are relevant for this study. Subsequently developed by Penrose (1959), resource-based arguments received empirical evidence that revealed differences in firm performance not only in the same industry (Hansen & Wernerfelt, 1989), but also within the narrower confines of strategic groups within industries (Cool & Schendel, 1988; Lewis & Thomas, 1990). Instead of emphasizing market structures, scholars began to highlight firm heterogeneity in proposing that the unique assets and capabilities of firms were important factors giving rise to imperfect competition and the attainment of above-average profits.

Following work on the heterogeneous distribution of resources among firms, Barney (1991) established the imperfect mobility of resources. This premise of the resource-based view refers more to the limited mobility of resources between competitors that gives rise to differential resource endowments and in turn disparities in competitive advantage rather than geographic immobility that results from the investment of tangible resources in a certain location. Barney (1991) proposed that key resources should be valuable, rare, inimitable, and non-substitutable (VRIN). Others argued that levels of durability, transparency, transferability, and replicability are important determinants of key resources (Grant, 1991), while inimitability, durability, appropriability, substitutability, and competitive superiority have been suggested elsewhere as critical attributes of resources (Collis & Montgomery, 1995). Furthermore, Amit and Schoemaker (1993) produced a list of eight criteria for superior resources, namely complementarity, scarcity, low tradability, inimitability, limited substitutability, appropriability, durability, and overlap with strategic industry factors.

Resources are generally defined as “all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a firm” (Barney, 1991: 101). Value creation is essential to the development of a sustainable competitive advantage, and for a resource to be a potential source of competitive advantage, it must be valuable or enable the creation of value. According to Barney (1991), a valuable resource must permit the firm to conceive of or implement strategies that improve its efficiency and effectiveness by meeting the needs of customers. Theoretical work to distill the firm outcomes of resources exploited for their latent value have identified core

capabilities (Leonard-Barton, 1992), competences (Fiol, 1991; Reed & DeFillippi, 1990), combinative capabilities (Kogut & Zander, 1992), transformation-based competencies (Lado, Boyd, & Wright, 1992), organizational capabilities (Russo & Fouts, 1997), and capabilities (Amit & Schoemaker, 1993).

The importance of rare resources can be traced back to the logic of the resource-based view, first established by Ricardo (1817), who argued that superior production factors generate economic rents for their owners. His famous farmland example demonstrated that when resources have different production levels, the more scarce the productive resources, the more abnormal profits generated for the owner. Rare resources create distinct strategic options for a firm that, over time, enable its managers to achieve different levels of economic rent (Peteraf, 1993). The rareness dimension of resources has received theoretical attention from Penrose (1959), Teece (1986), and Christmann (2000), who suggest that to create value, otherwise rare resources often must be bundled with resources that may be quite common (commonly referred to as complementary assets, free goods or co-specialized assets).

The inability of competitors to imitate resource endowments is another central premise of the resource-based view. Different terminologies in the literature, including asset stock accumulation (Dierickx & Cool, 1989), capability gaps (Coyne, 1986), capability differentials (Hall, 1992; 1993), limits to competition (Peteraf, 1993), isolating mechanisms (Rumelt, 1984; 1987), uncertain inimitability (Lippman & Rumelt, 1982), and causal ambiguity (Reed & DeFillippi, 1990) all grasp at the notion of inimitability of resources. Intangible and hard-to-observe resources are, by definition,

inimitable, as these resources are tacit and ingrained as part of a firm's know-how. As such, isolating the sources of competitive advantage by measuring inimitable resource is an inherent difficulty in resource-based view research (Godfrey & Hill, 1995). Levitas and Chi (2002: 960) call the difficulty of isolating unobservable resources a "fundamental paradox": reliable isolation is unattainable without full comprehension, but full comprehension enables outsiders to replicate what makes the firm unique. Besides field studies, researchers have suggested the use of multiple variables to collectively represent latent constructs (Boyd, Gove, & Hitt, 2005).

Resources that contribute to competitive advantage are complex, causally ambiguous, and often accumulated over time (Dierickx & Cool, 1989; McEvily & Chakravarthy, 2002; Reed & DeFillippi, 1990). The need to reformulate firm strategy in a dynamic environment makes it difficult to identify formerly valuable and inimitable resources, which can become a source of "core rigidities" (Leonard-Barton, 1992). Valuable, rare, and difficult-to-imitate resources can only be a source of sustained competitive advantage to the extent that there are no strategically equivalent resources (Barney, 1991). Substitutability is another condition of resources that cannot easily be determined (Barney, 2001), which warrants the inclusion of firm-level dummy variables to control for systematic unobserved heterogeneity across sample firms that could bias model estimation (Levitas & Chi, 2002). When examined in a longitudinal setting, the initial positive effects of resources can be shown to turn negative after an environmental change (Armstrong & Shimizu, 2007).

The links between the internal resources of the firm and market conditions have been highlighted (Amit & Schoemaker, 1993; Collis & Montgomery, 1995), with resources categorized according to certain attributes. For example, Miller and Shamsie (1996) demonstrated that property-based resources are more valuable in stable environments, while knowledge-based resources are more valuable in uncertain environments. Accordingly, the resource-based view is rooted in the distinction between what Denrell, Fang, and Winter (2003) call “complex resources” and “commodity resources”, which are typically available in markets and found across industries. The idea that market contexts vary in their resource valuations underscores the importance of incorporating an exit strategy into the initial deployment of resources abroad.

In the ensuing analysis, it is proposed that it is precisely such inimitable and non-substitutable resources that acquire a degree of specificity to the function rendered to the firm that ultimately makes them irreplaceable and immobile, with implications for the exit decision. Specifically, irreplaceability arises from specificity to a certain time frame, while immobility refers to specificity to a certain geographic space. Introducing these dimensions of resources helps to clarify the boundary conditions of the resource-based view (Priem & Butler, 2001).

Resource Management Theory

Scholars have examined the role of managers in the development of resources (Amit & Schoemaker, 1993; Barney, 1986; Barney & Zajac, 1994; Lei, Hitt, & Bettis, 1996; Schoemaker, 1992) and the relationship between resources and the scope of the firm (Chatterjee & Wernerfelt, 1991; Markides & Williamson, 1996; Prahalad & Hamel,

1990; Robins & Wiersema, 1995). It was Penrose (1959: 5) who first contended that “the experience of management will affect the productive service that all [the organization’s] other resources are capable of rendering”. In line with the “dynamic resource-based view” of the firm (Helfat & Peteraf, 2003), which incorporates the dynamic capabilities notion that resources and capabilities are continually adapted, integrated, and reconfigured into other resources and capabilities (Eisenhardt & Martin, 2000; Teece, Pisano, & Shuen, 1997), scholars have begun to pay more attention to the relationship between resources and strategy implementation (Hitt, Bierman, Shimizu, & Kochhar, 2001; Newbert, 2007).

Even so, it was only recently that the logic of dynamic managerial capabilities (Adner & Helfat, 2003) and asset orchestration (Helfat, Finkelstein, Mitchell, Peteraf, Singh, Teece, & Winter, 2007) have been developed into a resource management theory of the firm (Morrow, Sirmon, Hitt, & Holcomb, 2007; Sirmon & Hitt, 2003, 2009; Sirmon et al., 2007; Sirmon, Gove, & Hitt, 2008). Related research on dynamic capabilities and the firm’s context have further reinforced the work of scholars such as Barney (1997), Eisenhardt and Martin (2000), and Winter (1995), who suggest that the possession of VRIN resources is necessary but not sufficient for the explanation of a firm’s competitive position. Recognizing the role of managers in extracting the value out of resources allows for the potentially negative effects of resources, in line with the idea that the value of resources is time-varying and context-dependent (Barney, 2001; Priem & Butler, 2001). As such, there is value-added in examining the influence of resource management capabilities on firm strategy in a dynamic context as shaped by war.

The resource management model consists of structuring the resource portfolio, bundling resources to build capabilities, and leveraging capabilities to provide value to customers, gain a competitive advantage, and create wealth for owners (Sirmon et al., 2007). Structuring the resource portfolio is the process by which firms acquire (Barney, 1986; Denrell, et al., 2003), accumulate (Dierickx & Cool, 1989), and divest resources. Acquiring refers to purchasing resources from strategic factor markets (Barney, 1986); accumulating refers to the internal development of resources, which becomes critical in less munificent environments since resources therein cannot be easily acquired from external factor markets (Sirmon et al., 2007); divesting refers to the shedding of resources that are not likely to contribute to developing or maintaining a competitive advantage. Originally developed for the context of the generic firm, structuring functions are just as applicable to MNEs, and extended to the international domain may yield new insights for MNE-related outcomes.

Bundling is the process by which capabilities are formed. Capabilities exist when an integrated set of organizational resources has the capacity to work together in the completion of a task (Hitt, Ireland, & Harrison, 2001b). Resources within the firm's resource portfolio are integrated (i.e., bundled) to create capabilities, with each capability a unique combination of resources that allows the firm to take specific actions (marketing, R&D, etc.) intended to create value for customers (Sirmon et al., 2007). Stabilizing is concerned with the maintenance of a competitive advantage; enriching aims to extend and elaborate a current capability; pioneering involves mainly the integration of new resources with existing ones to create new capabilities. Bundling

functions are just as relevant in MNEs, where capabilities are developed both at the MNE network level and within a given subsidiary, and are worth exploring for their differences and impact on the MNE as a whole.

Leveraging involves processes used in applying a firm's capabilities to create value for customers and wealth for its owners. Commercialization is critical to value creation since the deepest capabilities and most integrated configurations are of no value unless they extract superior returns by catering to the needs of a sufficiently large market (Miller, Eisenstat, & Foote, 2002). Mobilizing refers to the design of capability configurations necessary to exploit opportunities in the market and gain a competitive advantage (Hamel & Prahalad, 1994); coordinating entails integrating mobilized capabilities in an effective yet efficient manner so as to create capability configurations; deploying involves physically creating value by using capability configurations to support a chosen leveraging strategy. Because of the leveraging function's emphasis on leveraging resources in a particular market location, this resource management capability is especially relevant to the MNE context.

Barney's (1991) dominant resource heterogeneity approach to explaining the role of resources in contributing to a competitive advantage is gradually being supplanted by resource management and dynamic capabilities approaches (Newbert, 2007). However, there is room for both the resource-based view and resource management theory to shed light on firm strategy at the subsidiary level and at the MNE network level in a discontinuous context, where exogenous shocks such as war can generate differences in firm responses as a function of firm heterogeneity in resource endowments and resource

management capabilities. If, as prescribed by the resource-based view and resource management theory, resources and resource management capabilities are primary catalysts for sustained above-average performance, then where would the firm be if and once these catalysts are destroyed by environmental events such as war?

Conclusion

In this chapter I began by defining war and reviewing the business and political science literatures on political risk and political violence in general. I then extensively reviewed work exploring the impact of war on firms and also the role of firms in exacerbating war, with particular emphasis on firm strategy. Third, I discussed existing research on foreign exit, and reviewed the related work on exit barriers and sunk costs that would inform my research questions. Finally, I reviewed in depth the resource-based view and resource management theory, identifying the international domain and extreme contexts as potential areas where these theories may be extended or tested for boundary conditions. In the next chapter I use components from the literature review to develop theory that links war to firm-specific characteristics to explain exit outcomes.

CHAPTER III

THEORY DEVELOPMENT

Key Theoretical Concepts

This study is concerned with *whether*, *when*, and *how* an MNE subsidiary will exit when war breaks out in a host country. Figure A1 shows the decision tree facing the subsidiary caught in a war, wherein the first decision is “whether to exit” – this is accordingly my first research question. Contingent on the initial choice being exit, two subsequent decisions are the *timing of exit* (“when”) and the *mode of exit* (“how”). Since I do not specify the relative sequence of the timing and mode questions, I examine the “when” question before the “how” question. The dotted arrow in Figure A1 indicates that the timing and mode decisions may be interdependent.

To address the timing question, I analyze the attributes of subsidiaries that exit “early”, or fast in speed, and those that exit “late”, or slowly. I also theorize on but do not empirically examine subsidiaries that exit “very early”, in anticipation of the threat before war starts. The third decision facing the subsidiary that decides to exit is “how to exit”. I define whole exit as the total withdrawal of operations from the host country. Partial exit refers to the curtailing but not completely shutting down of operations, which can include transferring expatriates out of or reducing capital investment in the host country or both, as indicated by the dotted branches in Figure A1.

To address these three research questions, I develop a theoretical framework that characterizes war as a threat that affects foreign subsidiaries in terms of two concepts –

their exposure and vulnerability – and show how variations in each can lead to differences in subsidiary strategic responses to war. Below I explore these concepts.

War as threat. I start with the concept of *threat*. For Turner et al. (2003), threats to a system (e.g., a firm) are comprised of perturbations and stress. *Perturbations* are major spikes in pressure beyond the normal range of variability in which the system operates, and commonly originate beyond the system in question (Gallopín, 2006). A war is therefore a prototype perturbation because wars increase the normal range of variability in which firms must operate.

War constitutes a threat to firms also because of the stress that it can impose on a system. Unlike a perturbation, *stress* is a continuous or slowly increasing pressure, commonly within the range of normal variability (Gallopín, 2006). In the context of war, stressors are external sources of structural changes to firms (O’Brien et al., 2004), such as bombings, disruptions in supply chain activities or network structure, or pressures levied on employees or stakeholders. Political hazards exacerbated by war, where political institutions lack checks and balances, and policy makers relatively unconstrained in their choice of policies by other actors, are also stressors because of the induced structural change in the host country’s political system (Henisz, 2000a, 2000b).

Vulnerability. To develop my theoretical model of subsidiary exit from warring environments, I borrow two concepts – exposure and vulnerability – that have emerged in various scholarly domains. Exposure is a central component of vulnerability, which I suggest influences exit. Exposure and vulnerability have only recently been adopted in the business literature to characterize the degree to which firms are susceptible to bribery

(Lee, Oh, & Eden, 2010). However, these two concepts that have been widely applied in various other research traditions (Adger, 2006; Smit & Wandel, 2006), and are recognized as being relevant on the level of socio-economic groups (i.e., firms), places, and across time (Turvey, 2007).

For example, exposure and vulnerability have emerged as cross-cutting themes in research on the human dimensions of global environmental change (Downing et al., 2000; Janssen, Schoon, Ke, & Borner, 2006; Kasperson & Kasperson, 2001; Mitchell, Devine, & Jagger, 1989; O'Brien et al., 2004; Polsky et al., 2003), in the medical literature for explaining socioeconomic differentials in physical and mental health (Baum, Garofalo, & Yali, 1999; Grzywacz, Almeida, Neupert, & Ettner, 2004; House & Williams, 2000), in sociological research for explaining race differences in substance abuse (Wallace & Muroff, 2002), gender differences in work stress (Pugliesi, 1999; Roxburgh, 1996; Tytherleigh, Jacobs, Webb, Ricketts, & Cooper, 2007), and socioeconomic status differences in susceptibility to undesirable life events (Brown, Bifulco, & Harris, 1987; McLeod & Kessler, 1990). For a war zone subsidiary, I argue that its vulnerability consists of three dimensions: its exposure, resources, and coping mechanisms. I explain the concept of vulnerability before detailing its constituent parts.

Perceived versus actual vulnerability.⁷ The concept of *vulnerability* captures a system's *perceived* and *actual* susceptibility to specific threat, which depends on what it has at risk and its ability to withstand stressors from war. The definitions of perceived

⁷ Perceived vulnerability can also be thought of as potential vulnerability, as it captures the vulnerability that has not yet been realized but is rather expected. Perceived vulnerability is used here because the potential vulnerability is self-assessed by the focal MNE, rather than by any other firm, ex ante to entering a warring country.

and actual vulnerability correspond to two definitions of vulnerability offered in the Merriam-Webster dictionary: 1) capable of being wounded, and 2) open to attack or damage. The former connotes potential vulnerability while the latter captures its realized element. As perceived vulnerability is not explicitly theorized upon in the exit decision, the term “vulnerability” will henceforth refer to “actual vulnerability”. A subsidiary may be aware of its exposure to war without being motivated to respond if it does not consider itself vulnerable to war.

For example, during an influenza outbreak people’s exposure depends on the frequency with which they come in contact and their proximity to the virus, while their vulnerability depends on their level of exposure, at-risk health issues, and immune system strength. Two people equally exposed to the virus may be differentially vulnerable because one may have a stronger immune system than the other. In a war, two subsidiaries similarly exposed in the host country can carry with them different levels of risk (Frynas & Mellahi, 2003), or in other words, harbor vulnerability to different degrees. In his study on political risk, Kobrin (1982: 40) stated that “the impact of most political events varies from firm to firm and from project to project.”

In the classic literature on MNEs (Hymer, 1976; Kindleberger, 1969), the costs of doing business abroad have broadly been defined as all additional costs a firm operating in an overseas market incurs that a local firm would not incur. With inherent disadvantages arising from its liability of foreignness, an MNE would be more likely to invest abroad if equipped with valuable resources and capabilities (Zaheer & Mosakowski, 1997). Conversely, MNEs with the conviction, capability and incentives to

operate in a warring country – which has political costs on top of the costs of doing business abroad – should possess significantly differentiated resources or firm-specific advantages (Mitchell, Shaver, & Yeung, 1994; Rugman, 1981; Shaver, et al., 1997).

Whether subsidiaries will exit from a warring country depends on why they are there in the first place. I argue that a subsidiary will primarily evaluate its vulnerability at two points in time: first, in deciding whether to enter the host country and second, in deciding whether to exit from the host country. *Perceived vulnerability* of the MNE's operations in the host country, as assessed by the MNE prior to entering a politically risky country, is its anticipated susceptibility to harm, or its estimated propensity to suffer significant transformations as a consequence of interactions with a perturbation (Gallopín, 2006). Perceived vulnerability is therefore an *ex ante* concept because it captures the potential for systemic change in confrontation with a perturbation such as war, rather than vulnerability as an outcome of this confrontation (Gallopín, 2006).

As a pre-existing attribute of the system prior to a perturbation, perceived vulnerability is related to the history of perturbations to which the system has been exposed, as reflected in the MNE's operational experience in other warring countries. Unlike perceived vulnerability, which is an attribute of the system, *actual vulnerability* is an attribute of the relationship between the system and the perturbation (Gallopín, 2003), and must therefore be defined as a function of factors that pertain to the specific context of the system at risk. Actual vulnerability is defined as the system's capacity to preserve its structure (van der Leeuw, 2001), which would be compromised if destroyed by a perturbation. As an *ex-post* phenomenon, actual vulnerability is not revealed until

war has occurred in the host country. Because they are assessed at different points in time, actual vulnerability may be independent of perceived vulnerability.

The confidence that MNE managers have from the possession of VRIN resources leads to a lower level of perceived vulnerability that not only increases the probability of foreign entry, but also of higher commitments that may later generate a greater degree of actual vulnerability. Indeed, larger MNEs with more resources tend to use higher commitment entry modes in low-potential markets (such as those with high political risk) than do smaller, less experienced firms (Agarwal & Ramaswami, 1992). Furthermore, businesses characterized by high sunk costs and immobile investments, such as MNEs in extractive industries, may perceive greater vulnerability prior to foreign entry, *ceteris paribus*. The MNE will also perceive more vulnerability *ex ante* if its foreign subsidiary is seen as strategically salient (i.e., there is more to lose), whether for short-term gains in profit or long-term footholds in market share. Conversely, the MNE should perceive less vulnerability the more alternative investments it holds in other countries, which reduces the marginal strategic salience of a subsidiary in any given country.

Exposure. *Exposure* is the level of specific threat from war experienced by the MNE subsidiary, and is defined as the degree, duration, and/or extent to which a system is in contact with, or subject to, a perturbation (Adger, 2006; Kasperson, Kasperson, Turner II., Schiller, & Hsiel, 2005). Exposure is a key concept in delineating the impact of war on firms because of the exogenous, pervasive and irresolvable nature of war, as well as the heterogeneous states of firms that come into contact with war. Given the random nature of stressors exerted by war, and the fact that much of subsidiary activity

is location-bound (immobile), subsidiaries should be differentially exposed to the same war. Specifically, exposure may be higher for subsidiaries located closer to the locus of the violence, and vice-versa. Subsidiary responses are unlikely to be uniform given different levels of exposure, since interpretations shaped through differential proximity to the war can profoundly shape what managers believe they see and what such signals mean (Pfeffer & Salancik, 1978).

Irreplaceable and immobile resources and resource management capabilities.

The resource-based view of the firm places a premium on resources that are rare and inimitable, which are complex, tacit and specific to the context in which these resources are generated and leveraged (Reed & DeFillippi, 1990). In line with the resource-based view's emphasis on the superiority of resources that are accumulated within the firm (Dierickx & Cool, 1989; Peteraf, 1993; Teece et al., 1997), MNEs with valuable, rare, inimitable, and non-substitutable (VRIN) resources such as accumulated tacit knowledge are more likely to employ greenfield entry modes in order to internalize production assets and coordination expertise (Kogut & Zander, 1993; Martin & Salomon, 2003). Because many of these path dependent VRIN resources are subject to barriers to imitation and mobility, these same MNEs incur greater sunk costs in an asset-specific and location-bound manner than less well-endowed MNEs.

The specificity of certain resources to a certain time frame or functional space precludes their replication by the focal firm at another point in time or their deployment to another location. Asset specificity exists when resources have higher internal value, meaning that external transaction costs would be higher than if resources are exploited

inside the firm (Williamson, 1975). According Williamson (1981: 555), “asset specificity can arise in any of three ways: site specificity, as when successive stations are located in cheek-by-jowl relation to each other so as to economize on inventory and transportation expenses; physical asset specificity, as where specialized dies are required to produce a component; and human asset specificity that arises from learning by doing.” Whereas human asset specificity is more likely to generate irreplaceable resources, site specificity is more likely to give rise to immobile assets.

Irreplaceability refers to the specificity of resources not only to a firm, activity, or strategy, but to a certain time period. Unlike inimitability and non-substitutability, the irreplaceability dimension of resources is a longitudinal concept rather than a cross-sectional concept. That is, while a resource that is inimitable or non-substitutable is not replicable by other firms on the space dimension, a resource that is irreplaceable is not renewable for the focal firm on the time dimension.

Immobility is a characteristic of resources that reflects their physical confinement to a location, or their considerable reduction in value if deployed elsewhere such that they may as well be physically immobile. Resources employed in production processes co-located with sources of natural resources and/or utilities may be immobile. For instance, the processing of metals and alloys, which are power-consuming activities, tends to be located close to energy generating facilities (Benito, 2003). Immobility may also result from the co-located as well as co-specialized configuration of supplier-manufacturer relations often found in industrial clusters (Markusen, 1996; Porter, 1998).

An MNE subsidiary is more vulnerable and thus more likely to exit if it has more assets at risk, as indicated by the irreplaceable value of resources should destruction occur from war. Immobile assets also render a subsidiary more vulnerable by increasing its exposure, which is a component of vulnerability. While the irreplaceability of resources in a subsidiary prompts the “should I exit?” question, the immobility of resources raises the “can I (that is, do I have the ability to) exit?” question.

Resource management capabilities reinforce the inherent advantage of the MNE’s hierarchical organization structure in internalizing cross-border transactions in conditions of failed market transactions (Hennart, 1982; Rugman, 1981). The complexity of the overall management role is such that quality top management is a potential source of sustainable competitive advantage (Castanias & Helfat, 1991; Sirmon et al., 2007). As resources on their own would cease to have meaning for FDI without the institutional form of the MNE and managerial functions to internalize them across borders, resources and resource management capabilities are inextricably linked (Sirmon et al., 2007).

Coping mechanisms. The concept of vulnerability used to gauge whether an MNE subsidiary will exit builds on Bohle (2001), who recognizes exposure and coping as the external and internal sides of vulnerability. A subsidiary’s coping mechanisms are akin to its immune system. Like exposure, *coping mechanisms* influence the extent of actual vulnerability experienced by firms during war. The natural sustainability literature occasionally refers to a system’s coping mechanisms interchangeably with adaptive capacity, and to both as components of a system’s capacity of response (Gallopini, 2003), or resilience (Briguglio, 2001), which is the opposite of vulnerability (Folke, 2006).

However, Turner et al. (2003) in considering both as components of the resilience of a system, distinguish coping mechanisms from adaptive capacity. Typically evolved from coping mechanisms, adaptive capacity captures proactive and significant system-wide change in response to human-environment conditions (Turner et al., 2003).

As the long-run version of coping mechanisms, the *adaptive capacity* of a system can be thought of as its capacity to increase, or at least maintain, the quality of life of its members in a given environment (Gallopín, Gutman, & Maletta, 1989). Smithers and Smit (1997) note that, while short-run coping mechanisms are purely reactive, the long-run coping mechanisms of a system are more proactive. In biology, adaptability means the capacity to adapt (i.e., to be able to live and reproduce) to a range of environmental contingencies, or to make adjustments that will enable a species or individual improve its condition in relation to its environment (Gallopín, 2006). Drawing upon insights from the field of climate change, adaptive capacity is the ability of a system to adjust to environmental change (including environmental variability and extremes), to moderate potential damages, to take advantage of opportunities, or to cope with consequences (IPCC, 2001). The ability to increase environmental “fitness”⁸ so as to maintain market shares during war requires that subsidiaries develop the capacity to adapt in the long-run.

While a subsidiary’s coping mechanisms or lack thereof becomes manifest upon exposure to war in the host country, its possession of adaptive capacity is only apparent over time, with both bearing directly on its actual vulnerability. Consistent with Turner

⁸ Fitness is used in the population ecology sense as the correspondence between the behavioral capabilities of a class of organizations, which in the present case are the set of foreign MNE subsidiaries in a war zone, and their environments, and is the growth rate possible under a certain environmental condition (Hannan & Freeman, 1984).

et al. (2003), I apply coping mechanisms to denote both short-run capacity to survive and adaptive capacity to denote long-run or more sustainable adjustments. Distinct from short-run coping mechanisms that at most reduce actual vulnerability, long-run coping mechanisms reduce vulnerability by way of also facilitating the sustainability and renewal of subsidiary operations in a warring environment. Therefore, coping mechanisms include both a short-run, loss-minimizing concept that focuses on subsidiaries' defense capabilities, and a long-run, survival-maximizing concept that recognizes the ability of subsidiaries to assert their experiential learning.

Summary. Having explored the key concepts for my theoretical model in Figure A2, I now employ these concepts in addressing my research questions. While the general threat from war can be captured by being in the host country, the level of exposure is essentially determined by perceived vulnerability. In line with my focus on subsidiary strategy during war, however, I theorize on and test only the shaded region. The key relationship in the model is the link between actual vulnerability and exit, where I argue that greater vulnerability leads to greater likelihood of exit. Because of the latent nature of the vulnerability construct, hypotheses are stated in terms of its three components, namely: 1) exposure, 2) resources and resource management capabilities, 3) and coping mechanisms. For each of these independent variables, I also examine their impact on the timing and mode of exit. Before turning to the hypotheses, however, I first theorize on the effect of anticipation on subsidiary strategy in the period leading up to war.

Anticipation in the Pre-War Period

The ability of MNEs to operate in warring countries increases with ex ante capacity for anticipation. MNE subsidiaries caught in host countries not yet engaged in war will necessarily be anticipative to different extents of an imminent war, either as a function of their presence in the country or the market research they would have undertaken prior to entry. Subsidiaries with significant advantages as a result of their resource endowments may in the pre-war period frame ambiguous information in a self-serving manner so as to reach certain goals, and stay in the host country by way of distorting their perceived vulnerability. In this case, up to the point at which the war actually occurs, such subsidiaries will fail to shift from a profit-maximization logic to a loss-avoidance logic.

In my economic exposition of the effect of anticipation on exit, I follow Hirshleifer and Riley (1992) and Buckley and Casson (2009) in taking a rational-actor approach. The model shows how the optimal choice of sunk investments is affected by rational expectations concerning an impending war in the host country. The key issue is whether in attempting to anticipate the threat from war a subsidiary would exit. I assume that subsidiaries partition the future state of a host country into different categories, or ‘states of the world’, and assign a subjective probability to each. The decision to exit depends on a subsidiary’s evaluation of the host country’s investment environment, as well as its own costs of staying versus exiting as contingent on the state of the host country. Although a sophisticated subsidiary may distinguish among a large number of different states, a naïve subsidiary, or in this case, one under a fair deal of stress due to a

probable war, may distinguish between only a few. For the sake of simplicity, it is assumed here that the categorization of future states is a binary one and that subsidiaries hold uncertainty about the general threat from the probable war.

The general threat from war is relevant to a subsidiary for the extent of specific threat imposed on its operations. The subsidiary anticipates two future states of the host country during war: state 1, in which specific threat to the subsidiary is high (i.e., high exposure), and state 2, in which it is low. Prior to the start of the war, however, exposure has yet to be revealed. The subsidiary must devise a strategy based on its evaluation of the relative likelihoods of the two future states of the host country and on its perceived vulnerability, which during this period is a function of its level of anticipation of the war.

Anticipation of war at time $t_0 - 1$, where t_0 marks the beginning of a war, leads to exit if the specific threat to the subsidiary, as reflected in the costs of staying, is perceived to be higher than the costs of exiting. Whereas longer windows may introduce other rationales that underlie exit, a window of one year prior to war start is appropriate for attributing exit to anticipation of war. I assume that the MNE's market size is fixed so that the revenue obtained from staying or exiting is the same. Exposure to war in the next period raises the costs of staying, which refers to costs sustained as a result of war, in addition to the usual costs of doing business abroad in the host country. Since the costs of staying depend on the state of the host country in the next period, such that it is c_1 if there is war and c_2 if there is peace, the subsidiary should decide between exiting and staying after collecting sufficient information about the likely state of the host

country at time t_0 .⁹ The ability to collect the most reliable information may, ironically, depend on continuing operations in the host country, which in turn depends on the subsidiary's level of anticipation.

Suppose that, since the war has yet to start, the subsidiary that has already invested in the host country, presumably because of low initial perceived vulnerability, is by status-quo committed to staying. In failing to perceive that a firm in the host country may be, before the start of a war, just as vulnerable to the threat from war as any other firm, a subsidiary can over-estimate the likelihood of positive outcomes and underestimate the likelihood of negative outcomes. As such, it may neglect potential signals that point to exit as an appropriate strategy. Yet, to the extent that actualized threat prompts exit, the full anticipation of an imminent war (to take an extreme case) should create a tipping point in the decision calculus from stay to exit.

Assuming that firms have an in-born bias against losses, and may therefore prefer to minimize immediate losses rather than reap potential future payoffs, the anticipation of war in the next period should lead to exit; conversely, the anticipation of peace should result in staying. In anticipating higher probability of peace than war in the next period, the subsidiary should stay if the costs associated with exiting exceed the costs of continuing operations in a war. Conversely, with higher anticipated probability of war the subsidiary should exit if the costs to staying exceed exit costs. Exit takes place under constant returns to scale, with a unit cost of c_0 , which captures the subsidiary's tangible

⁹ The costs of information search are omitted here for simplicity, as I assume that MNEs with investments on the ground in the host country should have access to real-time information at a marginal cost that is negligible.

and intangible sunk costs in the host country, switching costs from the logistics of exit, costs of reversal in case of re-entry into the host country, as well as costs of decay of assets left in the host country in a partial exit.

Figure A3 shows the comparison of the exit decision with and without anticipation. In this decision tree, it is shown that without anticipation, the subsidiary acts first and the true condition concerning war reveals itself later, whereas with anticipation the situation is grasped before the subsidiary acts. The subsidiary with anticipation of its exposure in the next period in comparing its anticipated additional costs of doing business abroad in the host country with the costs of exit will most likely exit, as the costs from continuing business operations considering the loss of employee lives are likely to be prohibitive. However, this decision ignores constraints on the subsidiary's actions, and in effect provides only an answer to the question of "should the subsidiary exit?"

Proposition 1a: There is a positive relationship between a subsidiary's anticipation of war and its exit from the host country.

While in non-warring contexts it is common to evaluate other strategic inputs and goals when deciding when to exit, subsidiaries in anticipation of war should incorporate the likelihood of war in the exit timing calculus. The unit cost of staying is c_1 when there is a war in the host country in the next period, and c_2 when there is peace, where $c_1 > c_0 > c_2$, and c_0 is the unit cost of exit from the warring country. The subsidiary should exit late if general threat is low and early if general threat is high. The probability of peace is p ($0 \leq p \leq 1$). Beyond this baseline economic tradeoff based solely on the general threat

caused by war, each subsidiary possesses a set of criteria regarding the exit decision that take into account its specific dynamic with the war. For instance, heterogeneous subsidiaries must anticipate their differential exposure to war should $p = 0$, which would determine to an extent their vulnerability in the event of war.

If the subsidiary possesses significant VRIN resources and low perceived vulnerability, then it may not exit despite the expectation that war will occur, or $p = 0$. The expected cost of staying is $E(c) = (1 - p) c_1 + p c_2$ while the expected cost of exit is c_0 . Trading off these costs indicates that the subsidiary should stay when $p > p^* = (c_1 - c_0) / (c_1 - c_2)$. In other words, the subsidiary should stay when the probability of low general threat from the war p exceeds a critical level p^* . Conversely, p^* also serves as the tipping point in the exit decision such that the subsidiary should exit when the probability of high general threat $(1 - p)$ due to war in the next period exceeds p^* . Each subsidiary therefore weighs the benefits against the costs, at the margin, in deciding when (very early or after the war starts) to exit from the host country. To the extent that war in the host country would likely expose a subsidiary to general threat, the subsidiary will be predisposed to exiting very early if $p < p^*$.

Due to the uncertainty involved in the exit timing decision for the pre-war period, subsidiaries are liable to make two types of error. The first is to reject the decision to exit very early when it is actually needed (i.e., the specific threat of the war is too high to tolerate – a Type I error), while the second is to fail to reject a very early exit when staying is appropriate instead (i.e., because of potentially salient opportunities – a Type II error). For example, downplaying the probability of war may create a misperception

that the subsidiary is somehow less likely than other firms to experience negative consequences from an indiscriminating phenomenon such as war. Such an “optimism bias” is likely to induce a Type I error. Committing a false negative or a false positive error is predicated on the subsidiary’s level of anticipation of the war. The nature of these errors is set out in Table B3. The cost of a Type I error is $c_1 - c_0$, and the cost of a Type II error is $c_0 - c_2$. It follows that the critical probability value may be expressed as:

$$p^* = \text{Cost of Type I error} / \text{Total cost of both errors}$$

The economic implications of the analysis for the MNE may be summarized as follows: 1) optimists stay; pessimists exit; 2) the greater the cost of a Type I error relative to the cost of a Type II error, the more optimistic a subsidiary needs to be; 3) *The costs of a Type I error are greater, the higher the cost of staying under high threat relative to exiting* (the subsidiary in this scenario would have missed the tipping point to exit as a result of anticipating peace in the event of an impending war); 4) *The costs of a Type II error are greater, the lower the cost of staying under low threat relative to exiting* (the subsidiary would have missed opportunities in the host country by anticipating too much threat for the following period); 5) anticipating high exposure therefore makes exit less delayable and more likely to occur prior to the start of war.

Proposition 1b: There is a positive relationship between a subsidiary’s anticipation of war and its very early exit from the host country.

Firms have to anticipate and respond to changes in the level of uncertainty in the environment. A subsidiary that is highly anticipative of host country conditions may also be highly cognizant of opportunities therein. In order to facilitate ease of re-entry, it may

be less likely to exit completely should it anticipate low threat from the war to its operations. Because of the high degree of irreversibility inherent to most exits due to capital costs and limited redeployability of certain assets (Henisz & Delios, 2004), it is optimal for subsidiaries to start at a small scale and continue incrementally until the losses avoided through exiting are smaller than the gains to be had from staying. The subsidiary in re-entering a host country from withdrawing completely cannot expect to hire the same person(s), and must rely on finding new employees, which poses higher costs of reversal than re-training laid-off employees from a partial exit. Reversal costs are part of the costs in maintaining a subsidiary's real options in the host country, as they are incurred when these kept options are exercised.

Rather than engage in full-scale exit, subsidiaries may be better served by divesting resources in ways that "allow preferential access to future opportunities," often referred to as *real options* (Bowman & Hurry, 1993: 762; emphasis in original). For example, in conditions of escalating uncertainty, the subsidiary may need to invest in real options in order to maintain the flexibility needed to reconfigure and leverage its capabilities (Sirmon et al., 2007). Specifically, real options theory suggests that it is important to keep options open and maintain flexibility whenever an investment entails significant uncertainty, and cannot be reversed at zero cost (Dixit & Pindyck, 1994; Kogut & Kulatilaka, 1994). In the short term, prior to the start of a war, the subsidiary has options to stay or to exit, whereas it has options for re-entry in the long term. Under strong uncertainty, there is value to a strategy such as staying that provides subsidiaries

with the flexibility to act upon new information and change the course of action in the future (Li & Li, 2010).

MNEs that are able to anticipate a war are arguably proficient at information gathering, and may therefore have entered the host country in the first place with expectations of political unrest. Such MNEs arguably see investment potential in the host country despite its locational flaws, and may covet a re-entry option, especially if they exit very early in anticipation of war. In the event that an MNE has intentions to re-enter the host country after a war, partial rather than whole exit may be appropriate. Given that foreign subsidiary divestments are partly irreversible (i.e., the value of investments cannot be recouped through sale of assets in the case of withdrawal), and that rebuilding investment positions is costly and time consuming, maintaining investment positions provides option value under uncertainty (Belderbos & Zou, 2009). In effect, barriers that serve as re-entry deterrents later on should also hinder whole exit *ex ante*. Accordingly, Busse and Hefeker (2007) argue that MNEs will respond only partially to changes in political and economic variables in the short term. Formally:

Proposition 1c: A subsidiary that anticipates war is more likely to exit in part than in whole from the host country.

Threat

The threat of war to subsidiaries can be characterized as *general* or *specific*. General threat is akin to systematic risk in financial investments, which affects the entire market and cannot be diversified away. Largely unavoidable and out of the control of all but a few firms, war epitomizes a typical source of systematic risk, which at face value

should equally affect subsidiaries in the host country. Given the relative futility of resources (financial, political, or otherwise) in sheltering subsidiary operations and employees from indiscriminant stressors like bombs, it is difficult for MNE managers to recognize and confront change in the form of war. As such, I establish baseline hypotheses for the effect of the generalized threat from war on exit:

Hypothesis 1: There is a positive relationship between the threat from war and subsidiary a) exit, b) early exit, and c) whole exit from the host country.

Exposure

Aside from the general component of threat, an added layer of specific threat, akin to unsystematic risk in financial portfolios, varies in degree across subsidiaries. This “exposure” to war affects the tipping point in the subsidiary’s exit calculus, which determines the threshold for losses and influences the likelihood, timing, and mode of exit. The adoption of exposure as one of the elements constituting vulnerability is consistent with most formulations by scholars (Gallopín, 2006), although in making the distinction between perceived and actual vulnerability I establish exposure as a component of the latter (ex post), and not of the former (ex ante). The separation between perceived vulnerability and exposure means that a subsidiary may be perceived as being vulnerable prior to war, but persist without problems insofar as it is not exposed to the perturbation (Gallopín, 2006). This is similar to the case of a person with low immunological defense against a disease, who would have high levels of perceived vulnerability regardless of whether he or she becomes exposed to the infectious agent.

Vulnerability is a latent concept that depends, firstly, on the type and level of exposure to which the subsidiary is subject. Even though the subsidiary in and of itself can be perceived as vulnerable prior to entry into the host country owing to its inherent characteristics, its actual vulnerability is predicated on how exposed and helpless it is in the face of a perturbation. For example, a large slab of glass can be construed as being more vulnerable to fracturing than a smaller cube of ice if exposed to physical impact. The glass would thus have perceived vulnerability given a pre-conceived notion of the type of exposure to which it would be subject even before the impact, by virtue of its physical attributes. However, if instead of being subject to impact, these two objects are exposed to moderate heat, then the cube of ice would no doubt be more vulnerable than the slab of glass to undergoing a “significant transformation” that constitutes a structural change of the system (Gallopín, 2006).

Depending on the type and level of exposure imposed on subjects then, their vulnerabilities will differ. As such, *the actual vulnerability of a system can only be defined once the type of exposure to which the system will be subject is defined*. For the subsidiary that is already in the host country but has not yet encountered war, its actual vulnerability, which is an ex post concept, cannot be determined except for as an outcome of firm-war dynamics, which is first and foremost contingent on the subsidiary’s exposure to war. Exposure and vulnerability are both necessary for the decision to exit, though neither is sufficient on its own to induce exit.

During war, even MNEs with interests in selling arms to the host country will seek to protect their personnel from the violence, much less the majority of MNEs

without such profit incentives. MNEs that choose to stay despite war may be driven by an escalation of commitment that stems from managers' unwillingness to admit that the previous chosen course of action to stay into the war was in vain (Staw, 1982). Discounting sunk costs in such decision-making fallacies, the subsidiary should prefer to transfer its assets out of the warring environment. Even without being exposed and thus vulnerable, MNEs, due to their many location options other than the host country, may find the war therein to be an unnecessary threat to confront. Holding their aversion to risk constant, the mere exposure of high-stake investments should render subsidiaries more vulnerable and therefore more likely to exit than not.

While high exposure should prompt exit, low exposure means that a subsidiary will be confronted with less specific threat, which may deter exit and facilitate staying. As long as war is limited to a border area or fought on the soil of another country and kept from generating any drastic policy changes of extensive impact, subsidiaries in the host country may not need to exit and may even expand through an increased reinvestment (Li, 2006). O'Sullivan (2001) provides macro-level evidence for this argument, showing that Sri Lanka experienced a 4.4% GDP growth rate during war and only 3.2% in the absence of war. The explanation offered for the lack of effect on the economy was the geographical concentration of war in the Tamil areas of the island that left the rest of the country relatively unaffected. To the extent that a higher distance from the war site creates a buffer from the general threat and reduces exposure, the subsidiary with higher exposure should trade the uncertainties associated with an improvement in

locational conditions from staying for the certainty of loss avoidance from exit (Hirschman, 1970).

Reducing its exposure through exit may be the only alternative to the subsidiary that cannot reduce its vulnerability through other means. The more specific threat that can be attributed to the war and therefore vulnerable it is, the more likely that a subsidiary will exit. To the extent that exposure is a function of the geographic proximity of the subsidiary to the locus of the war, and proximity to knowledge and markets are strong predictors of MNE location choice (Nachum, Zaheer, & Gross, 2008), the negative impact of proximity that stems from exposure to war should encourage re-location, *ceteris paribus*. Given rationally grounded decisions to trade off between capturing opportunities from location-specific investments and protecting assets from various unpredictable and specific threats during war, a baseline hypothesis for the effect of exposure on subsidiary strategy corresponding to the “should the subsidiary exit” question is proposed:

Hypothesis 2a: There is a positive relationship between a subsidiary’s exposure to war and its exit from the host country.

The threat from war is heterogeneous in its impact on firms differentially exposed in terms of proximity to the war site. Just as a person with low defenses would not be vulnerable to infectious diseases if confined to a sterile environment (Gallopín, 2006), exposure is salient as a predictor of the subsidiary’s decision to exit. Given the exogenous and non-discriminatory nature of stressors from war, vulnerability is a highly probable outcome of exposure. Oftentimes, the least prepared subsidiaries are located in

areas of the host country most susceptible to the general threat from war, because had the MNE developed preparedness prior to entering the host country it would have most likely avoided a location in the most violent areas.¹⁰ To the extent that highly exposed subsidiaries are also the least prepared for vulnerability, exit becomes urgent, such that:

Hypothesis 2b: There is a positive relationship between a subsidiary's exposure to war and its early exit from the host country.

In addition to considering whether it should exit and do so early, the subsidiary must also gauge whether it can exit completely. In deciding how to exit from a host country affected by war, the subsidiary must consider its prior commitments and its expectations of future opportunities in the host country. Provided that the subsidiary is making a reasonably positive return in the host country and not suffering from losses, the unavoidable sunk costs associated with any exit strategy and difficult-to-redeploy assets should function as friction in the decision to exit. However, *ceteris paribus*, exposure should prompt the subsidiary to minimize the specific threat to its operations to the largest extent possible, and exit completely. Unless it is confined to a safe area of the country and therefore able to discount any vulnerability that arises from its intrinsic attributes (Gallopín, 2006), exposure should lead the subsidiary to exit in whole because of the potential damage from war that may be inflicted on its investments.

Hypothesis 2c: A subsidiary with high exposure to war is more likely to exit in whole than in part from the host country.

¹⁰ This argument may not apply to MNEs in extractive industries, for which location may be pre-determined and crisis management systems may be in place prior to entering a politically unstable country.

Resources

With almost exclusive focus on the strengths of firm resources (i.e., their VRIN qualities), the resource-based view overlooks critical weaknesses that may stem from these strengths. The paradoxical nature of resources facilitates comparison to the Achilles' heel, wherein a potentially fatal flaw in spite of overall strength can lead to a firm's collapse in an extreme context. Similar to Wernerfelt's (1984) conception of resource weaknesses, the concept of the paradoxical nature of firm strengths goes back to Selznick (1957), who mentions both distinctive competences and distinctive inadequacies in one sentence (West & DeCastro, 2001). The very benefits attributable to the VRIN qualities of resources that allow an MNE to earn competitive rents alongside domestic and foreign competitors may also increase its subsidiary's vulnerability in the event of a war in the host country. In this section, I theorize on the irreplaceability and immobility of VRIN resources, as well as the effect of parent resource management capabilities on subsidiary vulnerability, focusing on the implications for subsidiary exit.

To the extent that open competition is the norm for firms, the resource-based view enhances our understanding of why some resources are more advantage-generating than others and also why resource asymmetries and consequent competitive advantages persist even in conditions of open competition. However, the resource-based view is silent on why these same firms with advantage-generating resources may become vulnerable when the norm is interrupted by low-probability yet high-consequence events. In such circumstances it becomes less important that which would make the firm stronger, but more important how it can minimize losses. As a weak link in the system, a

single war can wipe out all the positive effects of the strong links in the system, such as firm-specific VRIN resources and host country-specific location advantages. To the extent that war counteracts the once positive outcomes generated by VRIN resources, exit should be undertaken as soon as possible, and yet cannot be due to exit barriers.

The extent to which the subsidiary holds irreplaceable and immobile resources determine respectively the delayability and irreversibility of exit, which correspond to the questions of exit timing and mode, as shown in the typology of exit in Table B1. Exit timing depends on whether exit is delayable, wherein an exit may be postponed under conditions of decreased urgency as contingent on firm-war dynamics. Alternatively, if an exit cannot be delayed because of highly exposed operations, the subsidiary may choose to exit early rather than late. High delayability facilitates late exits, while low delayability prompts early exits. Exit mode is contingent on whether exit is irreversible; an irreversible exit is “forgone” in that once a subsidiary has exited from a country none of its investment therein can be recovered. Strategically salient subsidiaries are also likely to have more exit barriers that increase irreversibility (cf. Rivoli & Salorio, 1996), which is defined as the extent to which the resale value of an asset decreases vis-à-vis the purchase price (Abel & Eberly, 1996). High irreversibility is associated with partial exit, and low irreversibility with whole exit. A subsidiary with more irreplaceable resources than immobile resources will tend to have higher costs of staying than exiting and therefore exit, and vice versa.

Following Rivoli and Salorio (1996), the irreplaceability of resources makes exit less delayable, while the immobility of resources makes exit less reversible. Delaying an

exit in the presence of irreplaceable resources risks their destruction in war. Immobile resources are less maneuverable out of the host country and therefore less amenable to being re-invested therein following a war, whether due to cost or logistic problems. Such irreversibility of exit would make the partial exit option more valuable than the whole exit option. According to Rosenberger (2003), option creation and exercise are influenced by five factors: uncertainty, asset value, irreversibility, exercise costs, and competition. Belderbos and Zou (2009) show that the greater the uncertainty concerning future growth prospects, the more MNEs value the flexibility of keeping growth and switching (or re-entry) options open, and the less likely it is that subsidiaries will be divested in response to adverse changes in the environment.

The greater exposure of irreplaceable assets and their immobility from location-bound investments make a subsidiary more vulnerable to the threat from war. As shown in Figure A4, the dimensions of resources relevant for considering the exit decision in extreme contexts are traditional VRIN qualities, as well as irreplaceable and immobile attributes. While Barney (1991: 101) conceptualized all resources as having VRIN attributes, I characterize resources in the generic sense of the word, which qualifies non-VRIN assets of the firm as resources. As shown in the Venn diagram, not all VRIN resources are irreplaceable or immobile, nor are all irreplaceable or immobile assets necessarily VRIN. For example, a sufficiently large rock may be immobile but contribute little in the way of value for the firm. As such, VRIN characteristics are necessary but not sufficient conditions for resources to be deemed irreplaceable or immobile in extreme contexts. The light shaded areas in Figure A4 depict irreplaceable

and immobile resources actually relevant for firm strategy, while the dark shaded area represents the set of resources that would be most vulnerable to the threat from war.

A typology of irreplaceable and immobile resources is shown in Table B2. As indicated by the shaded cell, highly immobile and highly irreplaceable resources pose the greatest dilemma to subsidiaries in terms of the exit decision, as such investments are not readily transferrable out of the host country, and yet are the most vulnerable to war in terms of their at-risk value and exposure. An example would be specialized and expensive equipment, such as the Large Hadron Collider in Switzerland. In addition, exclusive licenses granted by the host country are location-bound and not recoverable if forsaken through exit. On the other hand, machinery, buildings, and land are highly immobile resources that are low in irreplaceability. That is, the subsidiary can replace such assets if they are destroyed in war by drawing on financial resources.

Resources that can be characterized as highly irreplaceable but also highly mobile would facilitate exit if it became necessary in war. Human capital is a prime example of this type of resource. The reputation of the MNE is also in this category of resources, since publicity (especially negative) of the MNE may be spread beyond where it has expended resources in propagating its name and is therefore mobile. While a good reputation may warrant staying in the host country to capture opportunities, it is also an irreplaceable resource in the sense that complicity with war may tarnish an MNE's image for a long period of time. Much like human capital, experience as stored in humans is irreplaceable if "destroyed", but mobile in the sense that international experience can be leveraged elsewhere. Finally, examples of resources that are low in

immobility and irreplaceability include trademarks, patents, and databases, all of which can be recorded on file and essentially “backed-up”. Financial capital is another highly mobile and replaceable resource in the sense that it is neither idiosyncratic to the time or space in which it must be leveraged to create value.

Irreplaceable resources. The value of a subsidiary’s resources at risk in the host country has implications for its exit strategy. A means with which to characterize the at-risk value of resources is to gauge their irreplaceability, which refers to the extent that the value of a resource cannot be recovered for a firm if lost or destroyed. Because foreign subsidiaries can generally do very little to stop violence from disrupting their local production activities once a war has erupted (Slangen & Beugelsdijk, 2010), those with the most irreplaceable resources on the ground should have the greatest incentive to reduce their exposure by exiting from the host country.

Differentiation in resource development enables idiosyncratic and therefore potentially superior outcomes to competitors. Because the path dependence of a firm’s activities is exceedingly difficult to identify and replicate (Barney, 1991; Collis & Montgomery, 1995; Dierickx & Cool, 1989), differentiation produces resources that are unique to firms on the time dimension (Dierickx & Cool, 1989). Because resources that satisfy Barney’s (1990) criterion for creating a competitive advantage are by nature tacit, complex, and specific to the use of the firm (Reed & DeFillippi, 1990), and therefore not predisposed to imitation by competitors, they are also just as “inimitable” by the firm *itself* once lost to war. If such resources were replaceable by the firm then the value specific to those resources can be created at any time, in any place.

Irreplaceable resources possess value-generating capacity for the particular time-space in which the firm inhabits. Typically associated with the ability of firms to develop firm-specific assets, VRIN resources that cannot be imitated by competitors provide the basis for overseas competitive advantage (Wernerfelt, 1984). MNEs that invest in politically risky countries in the first place are usually those with highly valuable resources not substitutable by host country firms, which allow them to overcome their costs of doing business abroad. However, such non-substitutable resources become in effect irreplaceable in war. A firm's competence may not remain distinctive for long in a dynamic context, or its advantage may remain but lose value because competitors develop new competences that create superior value for customers (Sirmon et al., 2007). My focus on the irreplaceability aspect of resources diverts attention away from competitive losses to those incurred as a result of utilizing irreplaceable resources in unstable environments.

While irreplaceable resources in theory should underlie firm strengths that dispel vulnerability, their presence can actually increase the subsidiary's vulnerability to war. Even as the subsidiary's VRIN resources are not partial to its competitors, their irreplaceability to the subsidiary renders it highly vulnerable if exposed to war. The point is not that the potentially negative consequences emanating from resources in a discontinuous environment negate their positive role in facilitating FDI. I argue that precisely because irreplaceable resources generate abnormal rents when doing business as usual, when destroyed they would place an even bigger "dent" in firms than would mediocre resources. Since strong positive increases in investor value is attributable more

to valuable and difficult-to-imitate actions that recombine existing resources than those that require external resources (Barney, 1988; Hitt, Ireland, & Tuggle, 2006; Morrow et al., 2007), irreplaceable resources if destroyed by war would impose a loss in perceived value at least equal in impact to the gain in perceived value from their initial acquisition.

Irreplaceability is a quality of resources that prevents their replication within a firm should they be depleted or destroyed. Since firm vulnerability is part function to what it has at risk, a subsidiary with proprietary resources in terms of a good reputation or irreplaceable human capital should be more vulnerable to war than those without such means of rent extraction. If the subsidiary has a long-term orientation in the host country, whereby the nature of its business and the structure of its industry render the local market a significant source of its profits, then the ability to “wait and see” (Rivoli & Salorio, 1996) in a war would be valuable. This ability can be attributed to the subsidiary’s motivation and capability in managing resources in the host country despite disruptions such as war in the short term. In the oligopolistic international oil industry, subsidiaries may place greater strategic emphasis on long-term market positions in oil-rich countries, even to the detriment of losses in the short term. Especially for government-backed MNEs from resource-seeking countries, the threat posed by wars in oil-rich countries may be perceived as low compared to the strategic salience of oil extraction for the home country.

Drawing on the resource-based view insight that top managers may represent some of the most valuable, unique, and hard-to-imitate resources, Athanassiou and Nigh (2000) and Roth (1995) reported that the more an MNE internationalizes, the more likely

its top managers will have significant international experience. Such attributes represent firm-specific tacit knowledge that is difficult to access by other MNEs whose top managers may not possess similar knowledge, but also impossible to replace for itself if destroyed. Exit may therefore be imperative in order to prevent any destruction to such irreplaceable resources. While research suggests that firms frequently abstain from the divestment of assets because of sunk costs or organizational inertia (Shimizu & Hitt, 2005), the existence of tremendous uncertainty with respect to the targets and indeed sources of war does not preclude the strategic imperative to limit losses through exiting.

Hypothesis 3a: There is a positive relationship between a subsidiary's irreplaceable resources and its exit from the host country.

MNEs with the financial means to venture to multiple corners of the world, including warring countries, are the likely beneficiaries of human capital, which is one of the most important sources of competitive advantage (Guthrie & Datta, 2008; Hitt et al., 2001a; Nixon, Hitt, Lee, & Jeong, 2004). The resource-based view emphasizes capabilities, which are interaction-based and difficult to duplicate due to causal ambiguity, as the most likely source of a sustainable competitive advantage (Collis, 1994; Teece et al., 1997). Inasmuch as capabilities are carried within humans, quality human capital represents a prime instance of an irreplaceable resource. Human capital refers to the skills, education, experience, and knowledge of the firm's employees (Becker, 1964). In particular, Makino and Delios (1996) view expatriates as quality human capital.¹¹ Most of the tacit knowledge used in knowledge-intensive activities is invariably stored

¹¹ The conception of quality human capital as expatriates derives from several papers on this topic, and is appropriate if quality is conceived of as a MNE-wide, rather than local, notion.

in expatriates in the form of human capital (Nachum & Zaheer, 2005), which is arguably the most mobile and vulnerable form of irreplaceable resource available to firms.

Evidence indicating that people react more strongly to infrequent large losses of life than to frequent small losses (Slovic, Monahan, & MacGregor, 2000) suggests that subsidiary managers may not simply assess the specific threat associated with war using a traditional cost-benefit analysis, but rather be biased toward safeguarding employees' and especially expatriates' lives at any cost. For example, in 2003, a Chevron subsidiary shut down all operations in response to increased violence in the Western Niger Delta that threatened the safety of its employees (Oetzel, et al., 2007). As employees can "vote with their feet" in a war (Spar, 1997), an early exit may be preferred over a late exit, especially given their ease of re-entry. To the extent that a higher portion of human capital in Japanese subsidiaries consists of expatriates (Kopp, 1994), and MNEs have a mandate to safeguard employees during uncertainty-ridden crises beyond any profit motives, I expect that greater irreplaceable resources in terms of more quality human capital will reduce the delayability of exit and lead to an early exit in order to prevent employee casualties. Formally:

Hypothesis 3b: There is a positive relationship between a subsidiary's irreplaceable resources and its early exit from the host country.

Human capital is a prototype irreplaceable resource; a subsidiary without quality human capital is akin to a hollowed-out operation. The skills valued in human capital are often refined to be firm-specific, and at times even client-specific (Sirmon & Hitt, 2009), which translates into human capital being also time-specific, in that specific clientele are

served during certain time periods. Specificity to a certain time period means that the expertise inherent in human capital cannot be replaced at a later time, or only at a cost of re-learning. Regardless of the function fulfilled by expatriates in a war zone, the specific time-space in which they are serving the goals of the MNE dictate that they may not be deployed to their best use. In the case of a major loss of human capital, a firm's bundles of resources is likely to be disrupted and its set of capabilities necessary to create and sustain a competitive advantage also thereby downgraded (Sirmon & Hitt, 2003). Because it is easy for MNEs to reverse the exit of labor (Van Den Bulcke, 1979), whole redeployment may be warranted.

Because human capital is directly related to the applicability of VRIN resources, MNEs with quality human capital should experience more success in operating abroad (Hitt et al., 2006). Mata and Portugal (2000) empirically confirm the expectation that a subsidiary's human capital is a strong factor in its endowment of VRIN resources. However, the higher use of expatriates by Japanese MNEs to fulfill the strong exertion of internal control (Tung, 1984) means that the very resources that confer higher performance on subsidiaries are also exposed to a greater threat in the event of war. Because expatriates may be transferred out of the host country only to the extent that their safety is ensured, and human capital as a resource is quite mobile, such an easily maneuverable and reversible exit should warrant whole exit to minimize losses from war.

Hypothesis 3c: A subsidiary with irreplaceable resources is more likely to exit in whole than in part from the host country.

Immobility resources. Just as with investment decisions (Jun & Singh, 1996), exit decisions take time due to physical and procedural constraints. Whereas firm-specific advantages have traditionally been recognized in creating value for MNEs (Rugman, 2009), I focus on one likely outcome of VRIN resources – exit barriers – and the implications for exit. In partial exit, where the subsidiary switches from a fully committed to a less committed operating mode, the switching costs are exit barriers. The past undertakings of the subsidiary become essentially sunk investments, or assets that cannot be redeployed to alternative uses (outside the host country) without a substantial loss in value. More than inertia arising from previously developed capabilities that impede effective change (Huff, Huff, & Thomas, 1992; Tushman & Romanelli, 1985), sunk costs incurred from capitalizing on country-specific advantages constitute both economic and psychic barriers to exit. Whereas irreplaceable resources prompt exit from the host country so as to reduce the subsidiary's assets at risk in war, the existence of immobile resources constrains exit in both the timing and mode dimensions.

By weighing its sunk costs against expected future profits (or indeed losses) in the host country, the subsidiary should decide against exiting if future opportunities are perceived to be greater than the current threats posed by war, especially if it has considerable asset-specific resources on the ground. The term *asset specificity* is defined as the increased value of resources when they are used for a particular purpose, as opposed to other alternatives (Klein, Crawford, & Alchian, 1978; Reed & DeFillippi, 1990). Assets specially tailored to the firm's strategy and technology can reduce costs, improve quality and enable the firm to differentiate its products and services from those

of its competitors. Firm-specific assets, including intangible assets (e.g., R&D, brand name and other reputational investments) and tangible assets (e.g., specialty equipment and machinery), may be difficult for outsiders to monitor, understand, and evaluate. Because the secondary market for such assets may not value them as much as the firm and may not even exist in warring countries (Klein, et al., 1978; Williamson 1975), these assets can only be re-deployed outside of the host country at great cost or not at all.

Divesting investments high in asset specificity results in several types of costs, including sunk costs from whole exit and switching costs from partial exit. Switching costs refers to costs – or difficulties – involved in changing a particular market arrangement (Weiss & Anderson, 1992), such as selling off part of a greenfield subsidiary in order to continue functioning as an equity joint venture in the host country. Comprised of contractual restrictions, loss of local sales revenue, recruitment and training costs, and foreign operation learning costs (Pedersen, Petersen, & Benito, 2002), switching costs arise from resources that may be geographically immobile due to costs of relocation (Grant, 1991). As changes in external conditions make a particular foreign operation more or less appropriate, a subsidiary that persists in the host country runs the risk of suboptimizing the MNE's operations in foreign markets (Benito et al., 1999).

After exiting from the host country, an MNE may decide to re-enter at a later stage, once the war subsides. Assets left in the host country from a partial exit may incur costs of decay, resulting from lack of use. For example, if an MNE withdraws from the U.S. as the dollar falls, its distribution network and brand name may disintegrate rapidly and must be rebuilt should it decide to re-enter on the appreciation of the dollar. Assets

employed toward the specific ends of a subsidiary at a point in time are not only less valuable in their next alternative use, but unobtainable once abandoned. For instance, a mine is subject to cave-ins and flooding when not used, and the costs of switching a furnace from oil to gas must be incurred over again should one decide to switch back (Dixit, 1989). The costs of decay and reversal are inextricably linked, posing barriers to re-entry. Decay costs can arise from the subsidiary leaving behind its social network in the host country, the partial abandonment of which would deprive the MNE of the ability to maintain such business relationships.

Resources that incur sunk, switching, or decay costs if relocated possess a degree of asset specificity and may thus be termed immobile. Immobile resources are often also valuable and rare, such as host government-issued licenses for resource extraction. In addition, the interconnectedness of asset stocks (Dierickx & Cool, 1989), within firm social relationships (Barney, 1991), co-specialized assets (Teece, 1986), and organizational routines and individual or team-based experiences that make up an MNE (Reed & DeFillippi, 1990) are all largely immobile resources. That is, few employees have sufficient breadth and depth of knowledge to grasp the essence of such resources (Nelson & Winter, 1982), which are immobile even if their carriers are recruited by competitors. It is by definition impossible for VRIN resources to be hired away by competitors, which means that such resources must also be to an extent immobile. Since the resource-based view is “simply an extension of Ricardian economics but with the assertion that many more factors – besides land – are inelastic in supply” (Barney, 2001:

645), VRIN resources meet Ricardo's basic assumption that (some) resources are heterogeneous, valuable, rare, and *imperfectly mobile* (Peteraf & Barney, 2003).

Stemming from asset specificity to a certain site or location, immobile resources raise the costs of exiting, both in the logistics of leaving the host country and in the potential for re-entry. In addition, more significant barriers to mobility or exit exist where property rights are not well defined, transaction costs are high and/or resources are co-specialized (Peteraf, 1993). An MNE that initially invests in the host country with VRIN resources may become more vulnerable during war to the extent that it is more likely to have incurred significant investments that in turn constitute exit barriers in a war. Other than destruction to the host country during war, location advantages that give rise to none other than immobile investments would, despite initial incentives for entry, constrain subsidiaries in terms of exit under urgent circumstances. However, the protection of its resources afforded by exiting in whole from a war zone may be more than enough to offset the costs in exiting and if needed, in re-entering the host country.

As exits are mostly irreversible, subsidiaries should exit in whole only if the perceived threat from war outweighs sunk costs in the host country or if the opportunities therein are less valuable than opportunities elsewhere. Given the complete close-down of the subsidiary, whole exit is difficult because "labor unions' contracts must be satisfied in dismissal, customers must be persuaded to substitute other products, the trade must accept the firm's explanation concerning why the company is unable to cover particular needs of the customer, and the value of untold millions of dollars invested in competitive positioning can never be recovered if no buyer for the business

unit can be found” Harrigan (1982: 729). Aside from its physical dimension, immobility can arise from attachment to intangible resources, such as local goodwill, that may not yield value elsewhere. While the *raison d’être* for a subsidiary may be the mobilization of its parent’s RVIN resources (Sirmon et al., 2007), the loss in organizational agility that results from the subsidiary’s immobile resources and managers’ emotional attachments to sunk costs may actually prove fatal in constraining exit during war.

Hypothesis 4a: There is a negative relationship between a subsidiary’s immobile resources and its exit from the host country.

Asset specificity increases the costs of abruptly exiting. The production and support infrastructure of manufacturing subsidiaries dictate their long-term orientation and immobility in investments. Whereas MNEs with fewer VRIN resources and therefore location-bound investments can quickly adapt to a changed host country environment by increasing their export intensity (Agarwal & Ramaswami, 1992; Brouthers et al., 1999), MNEs that have both the motivation and capability to significantly invest abroad are more likely to possess location-bound and therefore immobile concerns that hinder exit (Lee, Beamish, Lee, & Park, 2009). It is prohibitively expensive for manufacturing subsidiaries, which necessarily have highly immobile resources, to abandon their activities when war erupts in their region and even more so for them to reclaim their positions in the host country. Therefore, subsidiaries may prefer to keep the “wait-and-see” option in the host country by delaying exit, as an early exit for manufacturing subsidiaries may neither be lucrative nor logistically feasible.

The existence of immobile resources constrains the speed with which a subsidiary can exit from the host country, as time is required to sell off tangible assets and to determine which immobile assets should be abandoned instead. Foreign plant closure is a time-consuming strategy for both the subsidiary and its parent because of a manufacturing plant's essential role in maintaining the competitive position and product markets of the MNE, especially if the plant is highly vertically integrated into the value chain of the MNE (Ghertman, 1988). Immobile capital and other exit barriers have been theorized to significantly delay plant shutdowns and exit (Caves & Porter, 1976; Deily, 1988). Because selloffs frequently carry negative connotations for the managers of the selling firm (Taylor, 1988), and the process of selling off part of a subsidiary to a local partner may take a long time, a subsidiary may be constrained to undertaking a late exit. In a case study of Angola, Le Billon (2000) argued that foreign-dominated manufacturing industries, such as the oil and diamond sectors, generate high rents that are appropriated by the host country political elite. This, in conjunction with the fact that manufacturing subsidiaries are subject to more exit barriers, generates more incentive but less ability to exit early.

Hypothesis 4b: There is a negative relationship between a subsidiary's immobile assets and its early exit from the host country.

Whether a subsidiary should and can exit is comprised of respectively an immediate logistic component, as measurable directly through sunk costs, and a long-run normative component, predicated on the need to keep a re-entry option in keeping with the future goals of its parent. While exit barriers impede exit, a subsidiary should ignore

such barriers in exiting if it perceives the current and future losses from staying to exceed exit costs. My alternate focus on exit barriers as a critical factor in re-entry means that 1) since sunk costs are generally greatest in manufacturing industries where initial commitments are deemed lucrative, exit from such markets translates into *difficult* re-entry, and 2) since sunk costs generally involve tangible plant and equipment, forsaking such through exiting translates into *expensive* re-entry. Both factors point to a greater irreversibility from exiting under higher sunk costs.

If a subsidiary can reverse its exit at zero cost, there is little to be gained by exiting only partially from a warring environment, as exiting is the most cost-effective and efficient means of avoiding any potential losses from war. MNEs in less resource intensive industries with lower sunk costs can exit more easily and re-enter the host country without investing again in expensive facilities or bargaining for exclusive licenses from the host government. However, manufacturing subsidiaries have arguably the highest resource commitments, for which they must take into account the sunk costs and re-entry costs associated with exiting in whole. For instance, North American oil MNEs in exiting in whole from Sudan abandoned their options to invest with government approval for following the war, opening up the lucrative oil market to European and Asian competitors (Patey, 2006). Reduced reversibility of exit in manufacturing industries would therefore make the partial exit option more valuable than the whole exit option, especially given high uncertainty, high asset value, low exercise costs (i.e., partial exit costs less than whole exit), and the likely reduction in competition in the host country after a war.

Hypothesis 4c: A subsidiary with immobile assets is less likely to exit in whole than in part from the host country.

Resource Management Capabilities

While subsidiaries may choose to exit or stay by evaluating the threat from war and their vulnerability to the threat, I now take a step beyond this top-down view of the war as imposed on the subsidiary to open up the black box of the MNE in a warring context. As a part of its parents' global network, a subsidiary's decision to exit depends also on its role relative to other subsidiaries – its strategic salience – in the MNE's portfolio of subsidiaries. Specifically, by considering the subsidiary in the context of the MNE network as a whole, subsidiary vulnerability may no longer be the sole driver of the exit decision. The parent may weigh the exposure of its subsidiary against the opportunity costs of keeping it in the host country, trading off the minimization of losses from the threat against the maximization of gains from opportunities in the warring country versus elsewhere. While valuable resources with irreplaceable and immobile qualities may render the subsidiary more vulnerable to exogenous shocks in the host country, resource management capabilities of the parent determine the extent of the MNE's opportunities for value creation and growth on a global scale.

According to Sirmon et al. (2007: 273), “resource management is the comprehensive process of structuring the firm's resource portfolio, bundling the resources to build capabilities, and leveraging those capabilities with the purpose of creating and maintaining value for customers and owners.” Managers need to balance the need for efficient investments in resources with the need to react flexibly to

unexpected changes in dynamic and uncertain external environments (Sirmon et al., 2007). The synchronizing (i.e., matching of complementary decisions) of investment, bundling, and deployment decisions central to effective resource management are arguably even more critical to MNEs. Contingent on managerial motivations that underlie the ways in which MNE assets are orchestrated, or how resources are developed (e.g., acquired/accumulated) and deployed (e.g., bundled/leveraged) (Sirmon & Hitt, 2009), resource management capabilities determine the shifting configurations in which resources are allocated to their best uses in an MNE's global portfolio of subsidiaries.

The MNE's capabilities in managing its resources across country borders determine to a large extent its international portfolio of resources as embodied in subsidiaries, and furthermore these subsidiaries' capabilities and growth value as pertinent for the overall strategic position of the MNE. In essence, resource management capabilities and various sub-processes that enable the creation of value in a dynamic and uncertain environment (Sirmon et al., 2007) establish the strategic flexibility of the MNE, with implications for its subsidiary's exit from a particular country. Even as a subsidiary may have high levels of vulnerability as a result of its exposure, at-risk resources, and lack of coping mechanisms, its parent's possession of capabilities for maintaining strategic flexibility may lead to exit not due to vulnerability concerns but increased real options beyond the warring host country. Nonetheless, adeptness at managing a global portfolio may reinforce the strong positive influence of vulnerability on exit.

In an MNE network, structuring processes reflect the MNE's activities in acquiring, accumulating, and divesting resources in its international portfolio of

subsidiaries for the purpose of achieving scale and scope economies and globally-optimized value creation (Sirmon et al., 2007). For a portfolio of subsidiaries, bundling at the MNE level is akin to stabilizing, enriching or pioneering specific bundles of resources in particular subsidiaries so as to reinforce capabilities, which, for an MNE may be subsidiary-specific or location related. Finally, an MNE can select a bundle of resources and capabilities to leverage in a particular market or region in order to capture gains through mobilizing, coordinating, and deploying actions. MNEs with high resource management capabilities have more reason to perceive their potential vulnerability to be lower ex ante to investing in a potentially volatile country. High assessment of capabilities in diffusing threat may ironically lead to more exposed investments in an MNE's international portfolio.

Resource management capabilities at the MNE network level present a different dynamic for the exit decision in an extreme context. To the extent that proficient resource management enables an MNE to create value globally, such capabilities generate tension with subsidiary level vulnerability. An MNE adept at structuring its resource portfolio on a global scale has at its disposal a set of real options. Real options in the form of alternative investment locations for the MNE may be important in the event of drastic environmental changes because they provide the flexibility needed to redirect the MNE toward new opportunities (Sirmon et al., 2007). Production and refinement capabilities in bundling specialized equipment and skills with resources also generate global demand and strategic flexibility for the MNE. Finally, MNEs exercise real options with leveraging capabilities, even as real options provide the strategic

flexibility needed for the MNE to reconfigure and leverage capabilities in response to increases in environmental uncertainty (Sirmon et al., 2007). Rather than be rendered passive to subsidiary vulnerability, an MNE with options outside of the host country would likely consider its exit cost to be lower than the potential costs from staying.

To the extent that war is a reminder to MNEs that their subsidiaries do not operate within a vacuum, the environment in which resources must be evaluated, manipulated and deployed appropriately in order to create value becomes a critical consideration (Lippman & Rumelt, 2003). Resource management theory advocates a fit between resource deployment and the firm's environment, because fit between environmental contingencies and internal configurations may lead to greater understanding of how resources can be managed to optimize value creation (Sirmon et al., 2007). At the MNE level, being able to structure, bundle or leverage resources across country borders increases the MNE's strategic flexibility in divesting bundles of resources in subsidiaries no longer poised to create value or maintain growth. The divestment function of resource structuring at the MNE level may be necessary to allow the acquisition of new resources, for the MNE to engage in new strategies, to reduce ineffective investment expenditures (Moliterno & Wiersema, 2007; Sirmon et al., 2007), or in the present case, to minimize the exposure of subsidiaries to the threat from war.

Whereas irreplaceable resources at the subsidiary level enhance the subsidiary's strategic salience in prompting exit, resource management capabilities at the MNE level increase the MNE's strategic flexibility in facilitating exit. An MNE with optimal resource management processes would be able to transfer resources to their most valued

and out of their least safe locations, across borders and between subsidiaries. Given the tension between minimizing opportunity costs in warring countries and maximizing profits from strategically salient operations, there is value to the strategic flexibility afforded by an MNE's resource management capabilities. The contribution of resource management theory in synchronizing the management of resources with the creation of value in the firm's external environment points to the importance of coping mechanisms in reducing vulnerability, especially in warring countries, which is discussed after the presentation of hypotheses regarding resource management and exit.

Structuring capabilities. The ability to manage resources internationally enables an MNE to create value for customers and wealth for itself in diverse markets (Sirmon et al., 2007). Because firms have finite resources, it is imperative that they actively evaluate resources and divest less-valued ones to generate the slack and flexibility needed to acquire or accumulate resources of higher value (Sirmon & Hitt, 2003; Uhlenbruck, Meyer, & Hitt, 2003). Because structuring functions in resource management entail both organically accumulating and externally attaining resources, MNEs adept at structuring are capable of extending operations across country borders through both establishing subsidiaries and acquiring foreign firms. In addition, MNEs with strong structuring capabilities are able to efficiently divest resources through closing subsidiaries or exiting from a host country. With skills in resource structuring on a global scale, current assets divested from the host country in response to shocks such as war can be flexibly redeployed to one or multiple alternative uses in the MNE's expansive portfolio (Bartlett & Ghoshal, 1990; Kogut, 1983).

An internationally proficient MNE with the capacity to enter and exit host countries is less vulnerable to external threats because of its real options and lack of sole dependence on investments in a single country. As noted by Belderbos and Zou (2009), MNEs, especially those active in global industries, can actively exploit the strategic flexibility afforded by a portfolio of subsidiaries by shifting value-added activities between subsidiaries in response to adverse political developments. The investments of an MNE across countries constitute a network of so-called “across-country options,” or switching options (Kogut & Kulatilaka, 1994), which can be exercised when war becomes too threatening (Patey, 2006). Whereas staying is the only option when there is a monopoly on the “supply” of locations in which to invest, exit constitutes a viable market signal in a “perfect market” of investment locations, as held by MNEs with a large number of dynamic actions in their investment portfolios. While creating a “push” motivation for exiting a market, wars can also act as a function of “pull” motivations in prompting MNEs to seek opportunities elsewhere. As Ring, et al. (1990) suggest, MNEs that structure subsidiaries as options to cope with political risk inherent in the international arena have substantial flexibility in their configuration decisions.

MNEs with greater means of structuring substitute locations not only withstand failure in one country better than MNEs with fewer such global options (Mata & Portugal, 1994), but face a lower marginal cost of exit from any given country. In fact, an MNE with many structuring routines and thus highly interconnected global operations may risk imposing negative spillover costs on its network of investments by staying or delaying exit in a warring country, which raises its marginal cost of staying. According

to prospect theory, an MNE in the domain of gains with multiple options in its international portfolio is more likely to exhibit loss avoidance, a risk-averse state in which losses are weighted more heavily than gains (Kahneman & Tversky, 1979). Given the *raison d'être* of MNEs to shift functions and output to less risky locations, the loss avoidance logic should induce exit. To this end, war zone MNEs may even choose to switch to exporting rather than continue manufacturing or selling locally in the host country so as to minimize the risk to supply chains or sales. An MNE experienced at structuring resource bundles in the form of subsidiaries has not only greater incentives but also greater ability to transfer resources out of a highly uncertain and risky country, thereby increasing the likelihood, speed and completeness of exit.

Hypothesis 5: There is a positive relationship between MNE structuring capabilities and subsidiary a) exit, b) early exit, and c) whole exit from the host country.

Bundling capabilities. While each of its capabilities is a unique combination of resources that allows the MNE to take specific actions (e.g., manufacturing, marketing, R&D, etc) (Sirmon et al., 2007), the act of bundling a resource portfolio streamlines such capabilities. Since an MNE can best be considered the coordinator of a system of domestic and foreign activities that it controls and manages (Dunning & Lundan, 2008), each subsidiary is in effect bound by its strategic role in furthering the overall organizational objectives of the MNE (Rosenzweig & Singh, 1991). Two distinct types of bundling capabilities at the MNE level are respectively embodied in subsidiaries engaged in the parent's primary industry (a.k.a. stabilizing or enriching subsidiaries) and

subsidiaries that pioneer new capabilities in complementary yet distinct industries from the parent's primary industry (a.k.a. pioneering subsidiaries). While evidence shows that pioneering-type subsidiaries are more likely to be exited in whole than non-pioneering types (Chang & Singh, 1999), I study the effect on exit outcomes of bundling capabilities at the MNE level as function of an MNE's global portfolio composition.

While a stabilizing/enriching subsidiary engaged in minor improvements in its parent's existing capabilities or in extending and elaborating a current capability may possess less novel resource bundling capabilities (Sirmon et al., 2007), a subsidiary pioneering an industry for which its parent may not have prior operating recipes is inevitably faced with an increased breadth of resources that dictate rare combinations. To the extent that having more pioneering subsidiaries engaged in rare value-adding activities provides the MNE with a greater capacity to generate capabilities that support the formulation and implementation of actions not common within its competitive arena (Ndofor, Sirmon, & He, 2011), the strategic flexibility of its operations is increased. Because the full spectrum of bundling actions engendered by pioneering subsidiaries also minimizes the need to conform to isomorphic pressures of external stakeholders (DiMaggio & Powell, 1983), a higher ratio of pioneering subsidiaries to stabilizing/enriching subsidiaries in its global network also increases the MNE's strategic flexibility.

To the extent that new competencies are created through the bundling processes in pioneering subsidiaries, an MNE with more pioneering than stabilizing/enriching subsidiaries has the ability to generate competitive complexity and competitive deviance.

While firms whose strategies are characterized by competitive complexity have varied repertoires of actions in which no single action dominates in frequency of engagement, competitively deviant firms have ‘nonconformist’ action repertoires that differ markedly from industry norms (Ferrier, 2001). Because competitive actions mediate the relationship between resource bundles and performance by actualizing the value embedded in resources (Ndofor et al., 2011), MNEs with varied competencies are more globally competitive and flexible. The variations in bundling actions afforded by a greater presence of pioneering subsidiaries allow an MNE to discern the types of business activities and related modifications needed to increase global effectiveness. While a simple repertoire of resource bundles in the form of stabilizing/enriching subsidiaries provides limited strategic flexibility, an MNE with more pioneering subsidiaries is sufficiently agile to not only exit, but to do so early and in whole.

Hypothesis 6: There is a positive relationship between MNE bundling capabilities and subsidiary a) exit, b) early exit and c) whole exit from the host country.

Deployment capabilities. To the extent that even the best configurations of resources and capabilities are of no value unless they extract superior returns (Miller, Eisenstat, & Foote, 2002), the ability to deploy resources in particular host countries is critical to value appropriation. The regional strategy employed enables an MNE to both sustain its competitive advantage in a global economy and respond to local market conditions. An MNE with strong deployment capabilities may be motivated to stay in the host country because of sunk costs mobilized in the form of subsidiaries, but has

even higher motivation to exit given the fact that firms in countries at war are especially prone to expropriation as a result sunk costs. In particular, capital controls inherent in low transferability of assets out of the host country makes it easy to tax and expropriate capital (Boix, 2003),¹² which increases the costs of staying relative to those exiting. The MNE adept at mobilizing and coordinating resources to exploit opportunities in specific markets may accordingly replace a war zone subsidiary with another subsidiary in its extensive global network.

Because of its ability to exploit differences across markets, an MNE with resource deployment capabilities may perceive the value of opportunities in a warring country as a negative function of its available opportunities elsewhere. Rather than trade off host country threats against opportunities, MNEs with non-infinite resources and strong deployment capabilities can swap highly risky opportunities in a warring context for those on the outside. Indeed, MNEs do not enter host countries without foresight, which means that their market entry strategies are tailored to ensure that their expected profits remain higher than they would with the next best alternative use for their capital (Delios & Henisz, 2000). Combined with supply chain disruptions that are typical in war time (Chopra & Sodhi, 2004), the increased exposure of an MNE with a high proportion of resources in the host country should have both the motivation and capability to exit, especially if it has the capabilities to redeploy resources to less risky countries.

¹² The issue of appropriability of value is important, as the host government may become one of the many claimants of value creation (Collis & Montgomery, 1995), and in this case, in a warring country where property rights may not be clearly defined. However, the examination of this issue would deviate from my current focus on the aspects of resources that are fatal for the firm attempting to execute an exit strategy.

As MNEs are often the most visible institutions in a host country (Kostova & Zaheer, 1999; LaPalombara & Blank, 1977), and politically unstable countries are more likely to facilitate the domination of foreign MNEs in crucial sectors, MNEs with high resource commitment in the host country are more likely to be more susceptible to shifting policies concerning foreign ownership (Kobrin, 1978; Jacobson, et al., 1993). As a result of veteran understanding of local conditions, an MNE with significant resources deployed in the host country may be subject to an “endowment” effect, which should prompt exit so that the MNE’s endowment of a network-wide resource-deployment system will be protected from threats in any one country. Moreover, the concentration of quality human capital in MNEs with strong deployment capabilities should facilitate a strategically flexible exit, as quality employees are mobile and in high demand elsewhere. The likelihood of the MNE taking advantage of this mobility in exiting early and completely in order to minimize the war’s threat to a strategically salient network of resource deployment increases as the host country becomes less attractive due to war.

Hypothesis 7: There is a positive relationship between MNE deployment capabilities and subsidiary a) exit, b) early exit, and c) whole exit from the host country.

Coping Mechanisms

Coping mechanisms allow subsidiaries to modify their short-run and long-run vulnerability to perturbations (Gallopini, 2006). While traditional resources prompt but also constrain exit by increasing firm vulnerability in volatile environments, informational advantages and operational flexibility generated through coping mechanisms can facilitate survival. The coping mechanisms of a system rest within

social, economic, institutional, and political structures, and therefore must be accounted for in the analysis of firm vulnerability to war (Turner et al., 2003). Turner et al. (2003: 8075) state that “social units have different coping mechanisms and adaptive capacity, which enable them to respond to the registered harm as well as to avert the potential harm of a perturbation.” The subsidiary may be exposed to war, but at the same time be equipped with coping mechanisms, such as local embeddedness, that in effect bolster its “immune system”, which enables it to stay in the host country or at least delay exit. Alternatively, extensive experience in similar warring countries at the parent MNE level facilitates experiential learning of survival techniques in volatile environments that augment long-run coping mechanisms, otherwise known as adaptive capacity.

Carpenter, Brock, and Hanson (1999) characterize adaptive capacity as a component of resilience that reflects the learning of system behavior in response to disturbance. Experiential learning provides firms with a potential capacity for “strategic flexibility and the degrees of freedom to adapt and evolve” (Zahra & George, 2002: 185). Walker, Holling, Carpenter, and Kinzig (2004) define adaptive capacity as the collective capacity of the human actors in a system to manage resilience, which is the ability of groups or communities to cope with external stressors and disturbances as a result of social, political, and environmental change (Adger, 2000). Arising from the proactive development of capabilities to survive in a difficult context, adaptive capacity is broader than coping mechanisms (Gallopini, 2006). Given the learning intrinsic to the development of adaptive capacity, which consists of a greater range of coping

mechanisms accumulated over time, an MNE with more experience in war zones should have a better grasp of the nuances in dealing with hazardous operating conditions.

Coping mechanisms act in the same direction as VRIN resources in their reduction of perceived vulnerability prior to foreign entry, but in the opposite direction to irreplaceable and immobile resources in their negative effect on actual vulnerability. MNEs with coping mechanisms are *ex ante* more likely to invest with a high commitment of resources in order to maximize rents from the host market. To the extent that the value in VRIN resources is largely context specific, the competitive advantages conferred by such proprietary assets are contingent on the presence of coping mechanisms. Indeed, VRIN resources and resultant investments would otherwise become exit barriers in the event of war. Inasmuch as coping mechanisms reduce the actual vulnerability of subsidiaries and location-bound operations are difficult, both emotionally and economically, to abandon, coping mechanisms should reduce exit.

Henisz and Zelner (2003a, 2003b) suggest that in a volatile environment, “non-market” resources such as social network ties to political actors and other powerful players should be exploited by firms to counteract their vulnerability. With regard to the role of operational embeddedness, survival studies (Delios & Beamish, 2001) showing that host country experience influences subsidiary survival suggest that involvement with local suppliers and customers and ties to various parties along the supply chain may act as barriers to exit. While the irreplaceability and immobility of resources increase subsidiary vulnerability and promote exit, as long as the subsidiary has coping mechanisms and does not exit completely from the host country, such resources may be

kept for exploitation post the war. For example, during the Iranian war, Swedish MNEs that exited from Iran in whole essentially forfeited their re-entry option, while others that maintained a remnant of their operations in Iran throughout the war were able to capitalize on the ties established with Iranian political entities after the war (Hadjikhani & Johanson, 1996). A subsidiary with coping mechanisms has both the motivation and capability to choose less irreversible forms of exit so as to keep a re-entry option.

Local embeddedness. The capability to adapt in warring environments is a relational process that emerges over time through subsidiary interactions with stakeholders in the host country. A subsidiary may be less vulnerable if it was politically invited to invest in the host country or if its operations are depended upon by local society. Especially in developing country contexts, political ties and local embeddedness in the form of production and distribution networks constitute the most important aspects of survival (Hoskisson, Eden, Lau, & Wright, 2000). The survival of subsidiaries stems from being able to view the larger picture emanating from discontinuous events so as to derive order from the chaos and influence the events or how others respond to them (Paroutis & Pettigrew, 2007). Because such capability is largely dependent on ties to local powers with reliable information, subsidiaries established initially because of a local government invitation (thereby providing them with close ties to government units and the power that they wield) have a higher likelihood of surviving in a war. However, alignment with a single political faction during war can have negative consequences for the subsidiary (Henisz & Delios, 2004), which makes political ties in a warring country a short-run coping mechanism rather than a type of long-run adaptive capacity. For

example, the host government's political opposition upon perceiving the importance of the subsidiary to the host government may also make the subsidiary a target.

Subsidiaries that are invited by the local government may have value-added output that contributes in an important capacity to the host country. The resultant political ties can shield the subsidiary from policy and other types of uncertainty, and in the case of a civil war, from violence on both sides (Swanson, 2002). Especially in the case that the government becomes more dependent on the invited subsidiary than vice versa, the subsidiary has a coping mechanism in the form of government protection. For example, after Chevron left Sudan in 1990 due to attacks on its personnel and facilities, the oil-dependent Sudanese government was incentivized to avoid similar exits by other foreign MNEs (Swanson, 2002). Given that it is difficult for a firm to understand the rules in a political system and survive through current political events unless linkages are created to insiders in the political process (Hillman & Hitt, 1999), subsidiaries with local political ties benefit from the coping mechanisms provided by "political insidership" (Eden & Molot, 2002). Path-dependent coping mechanisms as a result of locally embedded production and distribution networks include brand recognition, customer bases, and informal agreements with local entities, all of which reduce firm vulnerability and provide rationales for staying longer in the host country.

Coping mechanisms can stem from rent-yielding resources, such as production or distribution networks, embedded in the subsidiary's proprietary resource base and adapted locally to address the host market. To the extent that local embeddedness is inextricably linked to the understanding of societal needs (Samra-Fredericks, 2003),

subsidiaries that have production and distribution networks are the most embedded in terms of their capacity to cater to local citizens. A presence in adverse times facilitates the subsidiary's integration into local factor markets, providing it with capabilities for dealing with various local actors and circumstances (Delios & Henisz, 2000). In addition to logistic difficulties and strategic imperatives to stay in the host country, exit decisions, particularly if they involve closing facilities and/or eliminating specific activities, may evoke strong reactions from governments, unions, and other affected parties (Feekin & Nissen, 1991). Subsidiaries with political backing can leverage informal agreements with officials to ensure that at least a remnant of their operations remains in the event of exit so as to maintain a re-entry option (Guillen, 2000; Peng & Heath, 1996). Formally:

Hypothesis 8: There is a negative relationship between a subsidiary's coping mechanisms and its a) exit, b) early exit, and c) whole exit from the host country.

War zone experience. The process of learning to cope with adversity requires experience (Dierickx & Cool, 1989). Learning and experience in foreign operations improve the chances for survival and success in subsequent foreign investments (Li, 1995). An important source of information about the environment in a host country, experience in foreign markets can help firms make better forecasts and strategies (Henisz, 2004). In particular, MNE accumulation of experience in politically hazardous environments increases its resilience to potentially adverse events in other countries (Delios & Henisz, 2003). While wars may be interpreted as overwhelming events by inexperienced MNEs, MNEs with prior experience in war zones may perceive wars in a

country as mere fluctuations in the political risk level. To the extent that “decisions depend on prior processes of human perception and evaluation” (Hitt & Tyler, 1991: 328), extensive war zone experience may desensitize managers to war in a host country. Since experience gained in specific settings reduces a firm’s tendency to follow the FDI decisions of other firms (Henisz & Delios, 2001; Lu, 2001), I argue that MNEs with experience in war zones should have, in contrast with the average loss-minimizing MNE, a higher likelihood of staying due to a higher threshold for tolerating threat.

In a chaotic cognitive and policy environment engendered by war, host country citizens must struggle to arrange their experiences into coherent accounts (cf. Scott & Lyman, 1968). The MNE with the mandate and personnel that mesh with such larger belief systems, which require experience with the reality of operating in war zones, is more likely to acquire the legitimacy needed for survival and thus be able to stay (DiMaggio & Powell, 1985; Geertz, 1973). To the extent that the subsidiary can leverage its parent’s war zone experience to act like a “wolf in sheep’s clothing”, the subsidiary can at least prolong its decision time and delay exit while waiting for more information to be revealed on the war. In addition to conferring legitimacy, prior experience in war zones has practical benefit in helping a subsidiary to quickly switch to undamaged suppliers or distributors, and identify appropriate public and private services such as medical professionals and other emergency support. In alleviating the costs associated with staying in the host country, prior war zone experience reduces the need to exit.

On the other hand, the MNE with war zone-specific experience also has the strategic flexibility to adapt not only to a given host country but – if a baseline loss

avoidance of firms is assumed – also to shift its activities from the war zone to a less risky location, possibly in another country. Under time constraints on decision making typical in crisis situations (Hermann, 1972), managers' knowledge, experience and cognitive capacities developed from experience in other war zones are central to the rapid development of effective interpretations about the environment (Hodgkinson & Clarke, 2007). Notably, the iterative comparison of varied business processes in different contexts increases the MNE's ability to respond quickly in dynamic and turbulent environments (Ndofor et al., 2011). The MNE's prior war zone experience may therefore also make the subsidiary more likely to exit from the host country.

The exit decision may be idiosyncratic to actual experiences. Specifically, MNEs that have chosen to exit during previous wars in other countries may favor exit from the current war zone, following the routines developed earlier. Especially if the firm has suffered losses in prior war zone experiences, a strategically flexible MNE may be “once bitten, twice shy” and therefore more likely to exit when faced with another war, and to exit more quickly and completely. On the other hand, MNEs that have successfully survived through wars in other countries may decide to stay, especially given the threat-rigidity effects that constrain an organization's actions in the face of threats (Staw, Sandelands, & Sutton, 1981). As such, war zone experience invariably has conflicting influences on whether the MNE will stay or exit from a host country at war. I argue, however, that prior experience in war zones is primarily a coping mechanism for the MNE, which helps subsidiary managers better understand and adapt to the shock from war. Given that MNEs with experience in war zones should have researched the host

country and entered initially despite known risks – which points to strong motivations to capitalize on opportunities therein – the increased understanding of its vulnerability and ability to better manage its context makes the subsidiary more likely to stay.

Hypothesis 9: There is a negative relationship between MNE war zone experience and subsidiary a) exit, b) early exit, and c) whole exit from the host country.

Conclusion

In this chapter I developed theory that links the vulnerability of subsidiaries to war, with emphasis on response differentials in the exit decision. I distinguished the threat of war into general and specific components, the latter of which is the exposure of the subsidiary. Arguments were first developed to explain the influence of the subsidiary's anticipation of war on its exit decision. I then proposed that exit depends on the subsidiary's vulnerability, which is comprised of three components: exposure, at-risk resources, and coping mechanisms. Superior resources were argued to be the source of the subsidiary's weaknesses in an extreme context because of their irreplaceable and immobile attributes. While I conceptualized the irreplaceability and immobility of resources as bearing separately on the *timing* and *mode* of exit decisions, the overlap in these two dimensions' influence on exit does not detract from but rather reinforces their predictions of subsidiary strategy. Finally, I accounted for the role of a good “immune system”, or coping mechanisms, in reducing subsidiary vulnerability to war and the likelihood of exit. In the next chapter I explain the sample and various statistical techniques used to test the theory, with detailed descriptions of the variables.

CHAPTER IV

RESEARCH METHODOLOGY

This chapter describes the methodology used in this study. The chapter is organized into the following sections: 1) data sources and sample selection; 2) measurement of variables; 3) overview of the statistical analysis.

Data and Sample

To test my hypotheses I created a sample of Japanese MNEs' foreign subsidiaries using several editions of *Kaigai Shinshutsu Kigyou Souran, Kuni-Betsu* (Japanese Overseas Investments, by Country), a Japanese-language directory of FDI information published by Toyo Keizai (TK dataset hereafter).¹³ The sample is ideal for testing the potential disadvantages of firm resources, since beginning in the 1980s Japanese MNEs have generated globally-competitive assets with government backing in the form of subsidies, monopolies, favorable credit arrangements, and discounted sales of state enterprises (Dunning, 2001; Ozawa, 1996). Furthermore, the relative autonomy of Japanese subsidiaries as compared to the subsidiaries of MNEs from other countries facilitates the investigation of subsidiary-level strategic responses (Negandhi, 1983).

The extensive time and country distribution in the data offers considerable variance in the timing-of-exit measures and covers subsidiary activity across Asia, the Middle East, South America, and Africa, where most of the wars in my dissertation occurred. The majority of Japan's outward investments were not made until the 1980s

¹³ I am very grateful to Professor Paul Beamish for providing me with access to and help with the TK dataset, and also to Professors Nikhil Celly and Mary Han for their assistance with understanding the variables in the dataset.

(UNCTAD, 2000), which limits concerns about left-censoring compared to alternate countries such as the U.S. and the U.K., both with high FDI outflows beginning in the 1950s. The more recent timing of Japanese foreign expansion enabled me to construct relatively complete FDI histories for the Japanese MNEs in the study.

To construct the sample from a panel dataset of 4,430 subsidiaries (43,081 observations) in warring host countries, which was initially derived from the full TK dataset (324,614 observations), I followed a step-wise procedure. First, I eliminated 790 subsidiaries (25,265 observations) that did not operate during war years (i.e., never entered the onset of risk period(s) during their tenure in the host country). Second, I removed 75 contractual affiliates (226 observations) in which there were no Japanese equity capital in order to develop a sample that contained only subsidiaries. Consistent with prior scholars (Delios & Beamish, 1999; Makino & Neupert, 2000; Yiu & Makino, 2002), I selected a cutoff of a 5% Japanese ownership stake for inclusion in the sample as a subsidiary, which further eliminated 511 subsidiaries (1,045 observations). The average subsidiary in the sample has 426 employees.¹⁴

To ensure that all the exit decisions in the analysis could be attributed to a single Japanese parent, I selected only wholly owned subsidiaries and international joint

¹⁴ The study of the effects of war using survival analysis constricts the sample because of the low-frequency yet high-consequence nature of such events. With samples that drop below a certain size threshold, model convergence is difficult to obtain because some covariates (e.g., exposure) have low prevalence rates, which increases the chance of generating samples of subsidiaries in which no exits occurred when the factor was present (Peduzzi, Concato, Feinstein, & Holford, 1995). Because applying the standard minimum criteria of 20 employees per subsidiary (Beamish & Inkpen, 1998) would further reduce the sample below a size containing the minimum threshold of such rare events (i.e., 80 exits during wars in this case), I did not apply this cutoff to the sample.

ventures that consisted of one or more local partners but only one Japanese parent firm.¹⁵ Toward this end, I eliminated 1018 strategic alliances (4,949 observations) that had two Japanese parents, which would potentially have different decision-making dynamics concerning foreign exit than subsidiaries with only one Japanese parent. For the same reason, I removed from the sample 18 business consortia (201 observations) with 3 to 16 Japanese partners. At this point 2036 subsidiaries remained (11,596 observations).

After listwise deletion of missing values, the sample for the first two research questions concerning exit likelihood and timing consisted of 3306 observations from 626 foreign subsidiaries of 386 Japanese parent firms in 23 countries and 51 industries operating between 1988 and 2006. The end of 2006 for each subsidiary was treated as a right-censored case. For the exit mode question, static analysis of the particular exit mode chosen (partial vs. whole) in any given year required that the subsidiary observations that involved neither partial nor whole exits be excluded, which resulted in a sample of 499 observations from 320 foreign subsidiaries of 216 Japanese parent firms in 17 countries and 40 industries operating between 1988 and 2006.

Parent firm data drawn from the *Nikkei Economic Electronic Databank System* of Nihon Keizai Shimbun, Inc. were then matched with parent firm names in the TK data. Industry-level data were derived from the *Analyst's Guide* of the Daiwa Institute of Research. Unless otherwise noted, country-level controls were primarily collected from the *World Development Indicator* of the World Bank.

¹⁵ However, if a second Japanese parent had less than 5% ownership, I included the observation. Such cases comprised only 10% of the sample.

The data on wars were compiled from the UCDP-PRIO Armed Conflict Dataset,¹⁶ which is part of a collaborative project between the Uppsala Conflict Data Program and the International Peace Research Institute. The dataset has been widely used by both researchers and policy makers (Collier et al., 2003; Miguel, Satyanath, & Sergenti, 2004; Wolfson, Madjd-Sadjadi, & James, 2004). Wars have a minimum threshold of 25 battle-related deaths (Uppsala, 2008). Instrumental variables from the war dataset include countries involved, start and end dates, and conflict location. Data on the number of battle-related deaths were obtained from the UCDP Battle-Related Deaths Dataset¹⁷ and matched to the wars in the sample. Finally, I gathered geographic information systems (GIS) data on the exact war zone location from the UCDP/PRIO Conflict Site Dataset,¹⁸ which provides the coordinates in terms of latitude and longitude for the war zones in the sample. The wars in the sample and their descriptions are detailed in Table B4.

Measures: Dependent Variables

Exit Likelihood. This dependent variable addresses the first two of my research questions, i.e., whether and when war causes a foreign subsidiary to exit from a host country. *Whole Exit* is an indicator variable, E_{xt} , that takes a value of 1 if subsidiary x exits in whole at time t , and 0 if otherwise. Observations start in 1988, continue until an exit occurs, or is right-censored in 2006 if no exit occurs. Years subsequent to when a

¹⁶ UCDP Armed Conflict Dataset v.4-2010, Uppsala Conflict Data Program,

http://www.pcr.uu.se/research/ucdp/datasets/ucdp_prio_armed_conflict_dataset/

¹⁷ UCDP Battle-Related Deaths Dataset v.5-2010, Uppsala Conflict Data Program,

http://www.pcr.uu.se/research/ucdp/datasets/ucdp_battle-related_deaths_dataset

¹⁸ UCDP Conflict Site Dataset v.2-2006, International Peace Research Institute,

<http://www.prio.no/CSCW/Datasets/Armed-Conflict/Conflict-Site>

subsidiary exits are dropped from the sample. If a subsidiary should re-enter the host country, the subsidiary enters the sample again at that time.

I follow Delios and Makino (2003) in treating delisted subsidiaries from the sample as whole exits because the TK dataset is almost exhaustive for all cases of Japanese FDI for parent firms that responded to its survey (Yamawaki, 1991). My approach corresponds to that utilized in previous research on subsidiary studies and has been validated by scholars that compared identified cases of exit in the *Kaigai Shinshutsu Kigyou Souran* with reported cases of exit (Delios & Beamish, 2004; Li, 1995; Makino, 1995). In addition, I also treat a subsidiary that sells off all of its Japanese ownership as exiting in whole. For the period 1988 to 2006 there were 83 whole exits during war, 71 of which were physical closures and 12 of which were sell-offs.

Exit Mode. The dependent variable for the exit mode research question is a dichotomous measure of subsidiary exit mode from year $t - 1$ to year t . Following Chung et al. (2010) and Nixon et al. (2004), a partial exit is any instance in which the subsidiary's number of Japanese expatriates or percentage of Japanese capital ownership is reduced by at least 10% from the previous year. A 10% reduction criterion is more conservative than Cascio, Young, and Morris' (1997) use of a 5% cutoff to differentiate intentional downsizings from those due to attrition. In doing so, I eliminate instances of labor or capital decreases attributable to random effects and ensure that the selected cases are intended acts of partial exit in response to war.

Partial Exit is an indicator variable, E_{xt} , that takes a value of 1 if the subsidiary exits in part in year t either through the reduction of expatriates or foreign capital and 0

if it exits in whole. To control for size bias, percentages are used instead of unit changes (Chung et al., 2010). If a subsidiary undertook both partial exit(s) and a whole exit thereafter in the same year, I treat its exit decision in that year as a whole exit. As such, the minimum capital ownership after a partial exit in capital must be greater than 0% (a sell-off is counted as a whole exit), while the minimum number of expatriates can be 0 after a partial exit (a subsidiary can continue to exist with no expatriates). Because of data limitations in the instances of partial exits in capital and expatriates, I cannot determine the magnitude of partial exits in addition to the mode of exit. As well, I leave the downsizing of the subsidiary's entire labor force during war to a future work.

Measures: Independent Variables – Threat and Exposure

I list below the measures of independent variables according to the sequence they appear in the hypotheses. All independent variables, their brief descriptions, and hypothesized influence on subsidiary exit are summarized in Table B5.

Threat. Because I am interested in a continuum of threat levels, I use the number of battle-related fatalities to proxy for the generalized threat from war for all foreign subsidiaries in the host country. To adjust for the annual fluctuations that may mask the actual year-over-year threat levels in a host country, I employed cumulative battle-related deaths. First, I summed the number of battle-related deaths in thousands of deaths over all concomitant wars in a particular host country for a given year.¹⁹ To then operationalize threat, I summed these totals over all years of the wars in the host country up to the focal year. For example, to derive the level of threat for India in 1997, I first

¹⁹ In the sample, 73% of the cases involved more than one war in a host country in a given year. If there was only one war in a given year for the host country, this step was omitted.

summed the battle-related deaths of its nine wars in 1997. Next, I added to this number the prior years' totals, treating as the first year the year that the earliest of these nine wars began, which was 1987. For countries that experienced only one war over the length of study, such as Nepal, I simply totaled the number of battle-related deaths over all years of the war, starting with the first war year (1996) and up to the focal year.

Exposure.²⁰ In accordance with my theory, I empirically distinguish between the *generalized* threat from war and the *specific* threat to the subsidiary, which I term exposure. Exposure measures the degree to which the subsidiary will experience a threat; exposure may therefore best be defined in terms of the geographic position of the subsidiary relative to the exact location of the war. To pinpoint where the battle action takes place in a specific country, war zones were coded with center-point coordinates, which are determined visually to the nearest 1/4th decimal degree by plotting identified war zones on a map of the relevant region/country, plus a radius variable in 50 km intervals to denote spatial extent of the war (Buhaug & Gates, 2002).

Measuring exposure at the war zone level in addition to threat at the country level is critical given the instances of multiple concurrent wars in a given country in the sample. For example, India had nine different wars and corresponding war zones in 1997. For such cases, I chose the nearest war zone to the subsidiary in calculating geographic proximity. My rationale is that the subsidiary would consider first and foremost its exposure to the closest threat in contemplating whether to exit. If the subsidiary is a

²⁰ I thank Professor Quan Li for suggesting GIS data as a source of information for the exact location of a war, and Professor Miriam Olivares from the Texas A&M Evans Library GIS Center for assistance with this variable.

manufacturing facility, I used the location of the plant rather than that of the office in the same city. I applied the great-circle distance formula to the latitude and longitude coordinates of both the subsidiary and the center of the war zone to precisely calculate physical distance in kilometers. An application of this approach can be found in Coval and Moskovitz (1999).²¹

The dummy variable for exposure was then created by subtracting the radius variable from the proximity variable to determine whether a subsidiary was inside or outside of a war zone. If the result was negative (i.e., the radius of the war zone is greater than the distance between the subsidiary and the center of the war zone), then the subsidiary was effectively inside a war zone (dummy variable equals 1), and vice versa.

Measures: Independent Variables – Subsidiary At-Risk Resources

MNEs are a successful organizational form in large part due to their resources and resource management capabilities, which allow them to overcome the costs of doing business abroad. For a foreign subsidiary that operates in a host country, the value of resources depends on the context in which they are used. Given their location-specific nature, the same valuable, rare, inimitable, and non-substitutable (VRIN) resources that facilitate successful entry into foreign markets may pose disadvantages to subsidiaries in the event of war in the host country. Especially disadvantageous are VRIN resources that are (1) irreplaceable by the subsidiary if destroyed by war and (2) immobile resources that cannot be redeployed quickly or completely outside of the host country during war. I discuss each below.

²¹ All distances were computed with a calculator available at <http://www.mapcrow.info/>.

Irreplaceable resources. The proxy for irreplaceable resources is created by interacting quality of human capital with location-specific experience. Human capital encompasses the education, experience, skills, and, in particular, the characteristics of top managers that positively affect firm strategy and performance (Hitt, et al., 2001a). Following Makino and Delios (1996), who characterized employee quality at the subsidiary level as the ratio of Japanese expatriate managers to total employees (referred to as the intensity of Japanese employment) times parent host country experience, I operationalize irreplaceable resources as intensity of Japanese employment times subsidiary age in the host country. Rather than imply that local employees are not high quality or irreplaceable, this measure is constructed to capture manager-specific experience often associated with expatriates. For example, expertise in synchronizing local operations with the goals of the parent and the MNE network is a time-sensitive asset not recoverable if interrupted or destroyed by war.

Makino, Beamish, and Zhao (2004) provide further evidence that Japanese expatriates are deemed to be quality human capital, observing that the use of Japanese expatriates was twice as high in developed countries (18.4%) as in less developed countries (LDCs) (9.7%). The presence of Japanese expatriates in my LDC-based sample therefore suggests that, despite security concerns, they were considered necessary to handle tasks outside the skill domain of local employees. Value created by expatriates is also irreplaceable because of their tacit knowledge in facilitating the international transfer of technology skills (Boyacigiller, 1990; Inkpen & Dinur, 1998). I include a local experience component in this measure to capture the accumulated local

relationships and nuanced firm-specific and country-specific experience that are irreplaceable to the extent their carriers are placed in jeopardy within a war zone. Instead of using the raw number of Japanese expatriates, I use a ratio of expatriates to total employees to adjust for the number of local employees in a given subsidiary (Makino & Delios, 1996).

Immobile resources. Different types of subsidiaries involve varying degrees of resource commitment (Johanson & Vahlne, 1977), which represent exit barriers to the extent that these resources are immobile. To proxy for immobile resources, I followed a three-step process. First, I identified subsidiaries that operated in resource intensive industries and were therefore more likely to encounter exit barriers. A subsidiary is coded 1 if it is engaged in manufacturing activities in agriculture, forestry, fisheries, mining, construction, food and beverages, textiles, wood, chemicals and pharmaceuticals, petroleum, rubber and leather, glass and ceramics, metals, electronics, transportation and shipbuilding, automobiles, precision equipment, or pulp and paper, and 0 otherwise (Gomes-Casseres, 1989).

Second, I created a variable to capture whether resources were immobile in the sense that the subsidiary was engaged in production rather than a support function in its prospective industry. This variable serves an additional purpose in distinguishing whether resources were VRIN, as resources that are immobile but do not meet the VRIN criteria would matter less in exit. Upstream production facilities with outputs that serve as the parent's or other within-network subsidiaries' core inputs should have higher asset specificity than downstream non-production subsidiaries, which makes vertically

integrated subsidiaries more strategically salient to the parent and therefore their resources inherently more VRIN. Vertical integration status is defined by a dummy coded 1 for subsidiaries engaged in exporting back to the home country or to another country (involved in any exporting) and 0 otherwise. Finally, to capture the effects of both the resource-intensive and export-oriented dimensions of a production-based subsidiary I created a proxy for immobile resources by multiplying the presence of production facilities with vertical integration status.

Measures: Independent Variables – Resource Management Capabilities

Parent MNEs with resource management capabilities possess the strategic flexibility to respond to substantial changes in the environment by diverting resources out of risky locations and creating more valuable opportunities elsewhere (Sirmon, et al., 2007). I measured resource management capabilities at the parent MNE level with three components: worldwide acquiring and divesting actions, number of worldwide pioneering subsidiaries versus stabilizing subsidiaries, and regional resource mobilization and deployment, all of which gauge the MNE's capabilities in flexibly managing resources across country borders.²²

Structuring capabilities. The more opportunities an MNE has in less risky countries, the less the relative value of an opportunity in a war zone and therefore the lower the cost of exiting a host country. Sub-processes to the structuring of a global portfolio of subsidiaries as real options include acquiring, accumulating, and divesting, all of which increase the flexibility with which an MNE can shift production from one

²² I thank Professor David Sirmon for helpful discussions about the proxy variables for the resource management constructs.

location to the next (Bartlett & Ghoshal, 1990, Kogut, 1983). I therefore measure structuring capabilities as a count of the parent's number of new foreign entries plus number of new foreign exits worldwide in a given year.

Bundling capabilities. In addition to structuring capabilities, the strategic flexibility of the parent MNE is also inherent in its potential to pioneer new capabilities from existing bundles of resources (Sirmon, et al., 2008). The extent to which an MNE possesses bundling capabilities can be attributed to the proportion of its subsidiaries worldwide that are involved in pioneering industries unrelated to its primary industry. Defined by pioneering processes that impart MNEs with new opportunities rather than stabilizing or enriching processes, bundling capabilities is measured as the proportion of the number of the parent's subsidiaries in unrelated industries to the total number of its subsidiaries in both unrelated and related worldwide in a given year.

Deployment capabilities. Because a firm is ultimately unable to create value unless it is able to leverage its capabilities in a marketplace (Sirmon & Hitt, 2003), the sub-process of deploying resources associated with leveraging is also necessary to attain and maintain strategic flexibility. To measure deployment capabilities,²³ I gauge the proportion of an MNE's resources that is allocated to a particular market. This variable is the number of the parent's subsidiaries in the warring host country divided by the number of its subsidiaries worldwide in a given year.

²³ Instead of naming this variable "leveraging" capabilities, I chose to use term deployment capabilities. While to "leverage" resources has a positive connotation in the finance and economics literatures, the firms that leverage resources in my warring country sample essentially face negative consequences for increasing their risk levels. Indeed, the most "leveraged" MNEs in the sample with their sole subsidiary in a warring country would suffer from the "only child syndrome", which resonates with my theory that these MNEs should have higher propensity to exit.

Resource management theory, because of its relatively recent development (Sirmon et al., 2007), has not previously been theorized or empirically tested in the international context. My constructs are therefore novel and make a contribution to the strategic management literature. However, a caveat on the robustness of these hitherto untested proxies is probably warranted.

Measures: Independent Variables – Coping Mechanisms

Coping mechanisms are measured at both the subsidiary and parent levels of analysis, deriving from either (1) the creation/sustenance of local embeddedness in the host country or (2) the accumulation of experience in dealing with war. Local embeddedness alleviates generalized threat and consists of political, operational, and social dimensions. Experience gained in warring countries can enable an MNE to detect and safeguard against opportunistic behavior on the part of a host country government or by partners, buyers, suppliers, and competitors that may seek to exploit turbulence in the environment (Henisz, 2000; Henisz & Williamson, 1999). Such learning can be applied to develop strategies that mitigate against public and private expropriation hazards (Delios & Henisz, 2000), which reduces firm vulnerability.

Subsidiary-level coping mechanisms. A foreign subsidiary invited by the local government can expect to receive some form of protection from a war, because the government must have perceived the MNE's presence to be beneficial to its political agenda in order to have invited it in the first place (Swanson, 2002). Political ties takes on a value of 1 if the subsidiary was invited by the local government. However, because political protection obtained from an incumbent party during war is time-sensitive and

beyond the subsidiary's control, I also include two operational dimensions in the proxy for local embeddedness. The first is coded 1 for the presence of a production network in the host country and the other is coded 1 for the presence of a distribution network. Taken from the TK data, local embeddedness is a categorical variable that takes on a value of 1 if the subsidiary has any one of political ties, or production or distribution network, assumes a value of 2 if the subsidiary has any two of these, equals 3 if all three conditions are met, and is 0 otherwise (the reference category).

Parent-level coping mechanisms. I measure coping mechanisms at the parent level by examining an MNE's foreign investment activity in countries at war. Previous research demonstrates that experience in highly hazardous countries minimizes the deterring influence of political hazards on entry (Delios & Henisz, 2000, 2003a, 2003b), and reduces a firm's tendency to follow the FDI location and entry mode decisions of other firms (Henisz & Delios, 2001; Lu, 2001). War zone experience is proxied by the number of the parent's subsidiary years in warring host countries in the current year and two years past. A subsidiary year is one year of operations by one subsidiary. I include the experience of both current subsidiaries and those that had exited in the previous two years. For example, if the parent had three subsidiaries in warring countries at $t - 2$, and one of those exited at $t - 1$ and another exits at t , the current year, then its war zone experience is the sum of the three subsidiaries from two years ago, the two left over from last year, and the one remaining this year, which is six subsidiary years.

Measures: Control Variables (Subsidiary and Parent-Level)

All controls variables, their brief descriptions, and rationale for inclusion are summarized in Table B6. Because I employ survival analysis, and assumed normality of time to an event is unreasonable in considering an event that has an instantaneous risk of occurring that is constant over time (Cleves, Gutierrez, Gould, & Marchenko, 2010), variables are not logged for normality.

Ownership. Earlier studies suggest that foreign joint ventures have a systematically higher probability of exit than wholly owned greenfield entries (Dhanaraj & Beamish, 2004; Hennart et al., 1998; Li, 1995). The ownership variable has been related to failure to deal with management conflicts and cultural differences, but also to a learning perspective of joint ventures: foreign firms may withdraw from a joint venture and expand their wholly owned operations in the country once they have gained sufficient experience through the joint venture (Inkpen & Beamish, 1997; Kogut, 1991). This dummy has a value of 1 if the subsidiary was wholly owned by the Japanese parent and 0 if it was an equity joint venture with one or more local partners.

Subsidiary age. This variable is included to control for the possible effect on foreign subsidiary exit of the liability of newness (Stinchcombe, 1965), as well as the adaptation of operations to host country conditions in older subsidiaries. Previous scholars have detected a positive relationship between subsidiary age and subsidiary survival (Benito, 1997a, 1997b; Shaver et al., 1997). I measure subsidiary age as the number of years a subsidiary had operated since its founding in the host country.

Subsidiary size. I control for subsidiary size because studies have shown a positive relationship between size and the survival of foreign subsidiaries (Li, 1995; Mata & Portugal, 2000). Larger subsidiaries may be more strategically salient to the parent and therefore less likely to exit. Because the downsizing of a significant portion of the labor in a foreign subsidiary may have negative repercussions with the local government and citizens, subsidiary size also matters in terms of the feasibility of exit. Subsidiary size is measured as employment in the subsidiary. This variable is lagged by one year because research has shown size to have a delayed effect on internationalization activities (Delios & Henisz, 2003a, 2003b).

Subsidiary performance. Because a parent may seek alternative uses for its poorly performing assets (Barney, 1997), I control for performance at $t_0 - 1$ of the subsidiary to account for the possible effect of financial performance on the exit decision. Given that unconsolidated financial reports of foreign subsidiary profitability are seldom available, managerial reports offer the best alternative for analyzing data from a geographically diversified sample over an extended time period. Prior studies on Japanese subsidiary performance have verified the validity and reliability of such a measure in empirical settings (Delios & Beamish, 2001; Woodcock, Beamish, & Makino, 1994). Furthermore, standardized managerial reports bypass the different accounting conventions that invariably complicate the comparison of inter-country financial performance and the complex transfer pricing and corporate tax policies that obscure the

interpretation of individual subsidiary performance. This self-reported variable has three ordinal levels: 1 for gain (the reference category), 2 for break-even, and 3 for loss.²⁴

Peer exits. The survival chances of foreign subsidiaries may depend positively on the presence of a home-country firm cluster in the host country. Particularly in the case of Japanese firms, strong mimetic patterns have been observed and attributed to greater externalities associated with co-location and the ease of inter-firm communication (Chung & Song, 2004). In addition, Japanese firms tend to form clusters due to the use of similar production techniques, labor training systems and labor pools, as well as the shared adherence to just-in-time delivery systems and strict quality control requirements (Head, Ries, & Swenson, 1995). To measure the prevalence of mimetic isomorphism in exit behavior (Greve, 1995) I construct peer subsidiary exits, which is the number of Japanese subsidiaries in the same industry and country as a focal subsidiary that exits in a given year. This variable takes into account firm-specific actions that occur as a result of war in the host country. In the sample there were 12 instances in which all of a subsidiary's peers in the same industry exited in a given year.

Parent size. Parent size has been found to negatively affect the probability of exit (Park & Park, 2000), and also positively (Belderbos, 2003; Hennart, et al., 1998; Li, 1995). On one hand, larger firms with more financial or management resources can be expected to withstand more setbacks abroad. However, larger MNEs may give less weight to the survival of individual subsidiaries and find it easier to reach a withdrawal decision. Moreover, large MNEs are typically more vulnerable to policy shifts in

²⁴ The largest category was chosen as the reference category in order to minimize standard errors in comparisons of other categories against the reference category.

turbulent times than other firms due to their relatively large size and visibility, their propensity to be located in – and dominate – crucial economic sectors, and concerns generated by foreign ownership of a nation's resources (Kobrin, 1978). I therefore control for the size of the MNE, using its annual sales as the measure.

Measures: Control Variables (Host-Country Level)

Using data from the United Nations World Development Indicators, I control for the economic environment in the host country. Per capita gross domestic product (GDP) and change in GDP are used to control for market demand and market potential. I measure a country's relative attractiveness for foreign firms as annual flows of FDI over GDP, which should also account for regulatory and other changes that affect the attractiveness of investment environments. In additionally considering the political environment for investment, I control for the levels of political, economic, and financial risk in the host country using International Political Risk Services (IPRS) data.²⁵

Bilateral investment treaties (BITs) are an external form of coping mechanism that guard against expropriation (Egger & Pfaffermayr, 2004), which is the forced divestment of equity ownership by a foreign firm (Kobrin, 1980). Bilateral investment treaty is a dummy variable coded as 1 if the host country had a BIT with Japan for the years examined and 0 otherwise.²⁶ Year dummy variables are also included to control for other fluctuations in macroeconomic conditions and general industry performance, which may affect the motivation and ability of subsidiaries to exit.

²⁵ The Composite Political Risk Rating includes 12 weighted variables covering both political and social attributes, which can be found at http://www.prsgroup.com/ICRG_Methodology.aspx

²⁶ United Nations Conference on Trade and Development, Bilateral Investment Treaties Search Engine, <http://www.unctad.org/Templates/Page.asp?intItemID=2344&lang=1>

Statistical Methods: “Whether to Exit” and “When to Exit”

I study the first two exit decisions by casting exit in probabilistic terms rather than assuming the firm to be in equilibrium. By using survival analysis, I account for environmental shocks encountered abroad in order to model an intrinsically dynamic process within a firm – the accumulation of information and resources to the point where a decision to exit from the host country is made.

The Cox proportional hazard model is a distribution-free model that assumes no parametric form for the baseline hazard and estimates coefficients using the maximum likelihood procedure (Cox, 1972). This is important because the uncertainty from war deviates from normal statistical uncertainty, with an unknown underlying probability distribution over events (Knight, 1921); incorrect parameter assumptions about time dependence can thus lead to biased estimates (Blossfeld & Rohwer, 2004). Following Cox's (1972) proportional hazards model, a subsidiary's exit rate (or hazard rate), $h(t)$, with respect to the time interval is defined as

$$h(t) = \lim_{\Delta t \rightarrow \infty} p(t, t + \Delta t) / \Delta t. \quad (1.1)$$

Inclusion of time-varying predictors violates the proportional hazard assumption that all the covariates in a Cox proportional hazard model are time-independent (Hosmer & Lemeshow, 1999; Kleinbaum & Klein, 2005). Time-varying covariates are those explanatory variables that in addition to specifying a main effect also vary continuously with time. I confirmed the presence of time-varying covariates in my model with the Schoenfeld residuals test (Grambsch & Therneau, 1994; Schoenfeld, 1982). Therefore, I use an extended Cox proportional hazard model (Kleinbaum & Klein, 2005), which

incorporates the effects of the explanatory variables (some of which may vary over time) by allowing the hazard function to be influenced by both time-independent and time-dependent predictors (Kleinbaum & Klein, 2005):

$$h(t, X(t)) = h_0(t) \exp[\sum_{i=1}^{p_1} \beta_i X_i + \sum_{j=1}^{p_2} \delta_j X_j(t)], \quad (1.2)$$

where $h_0(t)$ is a baseline hazards function (shared across the population), and the exponential part contains X_i , which is the vector of time-independent predictors observed at t , and β_i , its corresponding vector of regression coefficients, as well as $X_j(t)$, which is the vector of time-dependent predictors, and its corresponding vector of regression coefficients, denoted by δ_j .

The unit of analysis is the subsidiary, which is placed in the risk set upon the start of a war. Time is measured in years from the beginning of the observation period (upon onset of risk) and the hazard event is a whole exit. In order to more accurately gauge the impact of war on the exit decisions of subsidiaries, I formatted the survival data to allow for multiple “onset of risk” periods to reflect the true occurrences of wars in host countries by assigning subsidiaries different IDs corresponding to different war periods. For example, five separate war periods were modeled for Iran to reflect actual warfare in the periods of 1987 to 1988, 1990 to 1993, 1996 to 1997, 1999 to 2001, and 2005 to 2006. In doing so, I was able to isolate the effect of wars on exit and rule out instances of exit attributable to periods of peace between wars.²⁷ To account for heteroskedasticity

²⁷ A single subsidiary with observations spanning five non-concomitant and non-consecutive wars in a host country was assigned five different IDs. By then stratifying on the new IDs when setting the survival data, the subsidiary’s observations during periods of peace between these five wars were aptly removed. While methods to model multiple failures are common in survival analysis, my method of dealing with multiple “onsets of risk” in recurrent events (wars) with a single failure (whole exit) is novel and was developed with the assistance of a Stata expert.

and correlated exit patterns within host countries, Huber/White robust standard errors adjusted for intra-country clustering of firm behavior are estimated.

The empirical model assumes the most recent observations of predictors to be the determinants of the exit decisions; that is, I specify exit between $t - 1$ and t as a function of the independent variables observed at $t - 1$. The instantaneous probability that a subsidiary will exit during the time interval from $t - 1$ to t , given that it has yet to exit (i.e., it is still "at risk") at time $t - 1$, depends on the effect of the war and internal firm characteristics, as well as on some function of time reflecting environmental changes that affect all firms in a similar way, irrespective of their attributes. Because foreign exits require time to be executed (McDermott, 2010), lagged variables are employed for time-varying controls and predictors.²⁸ Since an important assumption of the extended Cox model is that the effect of a time-dependent variable $X_j(t)$ on the survival probability at time t depends on the value of this variable at that same time t , and not on the value at an earlier or later time (Kleinbaum & Klein, 2005), I did not lag the three resource management variables that contained time-dependent components.

The use of the Cox proportional hazard model relates a firm's exit status to the time at which an exit has (or has not) occurred. By including a time dependent unspecified term in the model, the method allows environmental changes (i.e., war) to be treated as an arbitrary function of time. Furthermore, the Cox proportional hazard model corrects for problems due to firms being in the study prior to the start of the study period

²⁸ Variables that are measured in years or subsidiary-years are not lagged.

(left censoring) and firms that have not exited, but may nevertheless exit later (right censoring) (Cox, 1972).

Statistical Methods: “How to Exit”

Logit methods can be employed to consider the differences between subsidiaries that undertake partial vs. whole exits at a given moment of time given the assumption that the subsidiary has already made a decision to exit from the host country (refer to the decision tree in Figure A1). I estimate binary logistic regression models with exit mode as the dependent variable to test the likelihood that a subsidiary will exit in part rather than whole in a particular year. I exclude the observations of subsidiaries that involve neither a partial nor a whole exit in order to detect predictors’ effects on the particular mode of exit given that exit has already been chosen over staying as a strategy.

Despite the potential for multiple observations of a subsidiary to be misconstrued as independent, I treat the data as a pooled cross-section rather than estimate models with panel data techniques; this is done for a number of reasons. First, for 47% of the dataset there is only one observation (exit) per subsidiary; 33% involve two observations; and the maximum number of observations for a given subsidiary is six. In addition, the varied number of exits per subsidiary would result in unbalanced panels. Furthermore, I assume exit decisions to be influenced predominantly by the nature of the war and only derivatively by the time-varying attributes of the subsidiary. According to Stimson (1985: 926), such cross-sectional dominance where the number of observations is larger than the number of time periods (e.g., $N > T$) “minimizes the threat of autocorrelated error

(only $N(T - 1)$ cases may be serially dependent, which can be a relatively small proportion of NT when N is large and T is small)”.

Because autocorrelation is not a problem in my dataset, I employ standard logit regression with robust standard errors adjusted for clustering at the host country level to allow for non-independence of observations – referring to subsidiaries exposed to the same war (Greene, 2003). In addition, I follow the advice of Certo and Semadeni (2006), who suggest that when analyzing cross-sectionally dominated data sets, time dummy variables should be employed to control for potential contemporaneous correlation, whose influence is more problematic in data sets with large N s and small T s. Equation (1.3) shows how the coefficients affect the probability of a partial exit as compared to whole exit at a given time:

$$\Pr(y_i=1) = \frac{e^{X\beta}}{e^{X\beta} + 1} \quad (1.3)$$

where y is equal to 1 if the i th exit is a partial exit, and 0 if a whole exit, X is the vector of the predictor variables, and β is the vector of the variables’ coefficients.

CHAPTER V

RESULTS

This chapter is divided into three sections. The first section outlines the main findings of my dissertation with respect to the questions of exit likelihood and timing. The second section presents the results for the exit mode question. The third section contains post hoc work.

Exit Likelihood and Timing

Table B7 presents summary statistics and correlations. The average subsidiary has 442 employees and has operated for 15.7 years in the host country. In terms of ownership mode, 22% of the sample consists of wholly owned subsidiaries, and 78% are joint ventures. Taking the first year of observation available as an indicator for the time-varying performance profile of a subsidiary, 66% of the sample had gains, 19% broke even, and 15% made a loss. Out of all the subsidiaries, 20% are located within actual war zones, and the average survival time during war periods is four years. The average number of cumulative battle-related deaths for the sample countries is 2,565 deaths, while the maximum is 99,128 deaths. Overall, the independent variables show considerable variance, and the correlations indicate that multicollinearity is not a major concern. All the individual variable VIF values are below 4, and the mean VIF is below 2 for all models.

Table B8 provides a breakdown of the sample firms by host country and percentage of observations. The largest number of subsidiaries are in Thailand (37%), followed by Philippines (26%) and Indonesia (17%), which accounted for 20.5% , 28.9%,

and 20.5% of the whole exits, respectively.²⁹ To explain the significant representation of subsidiaries in Thailand, I checked for the most represented countries in the full TK dataset. The results as shown in Table B9 indicate that out of all the nine countries with more than 10,000 observations in the full TK dataset, Thailand is the only one that had a war and was therefore selected into my sample. Indeed, among other reasons, its geographical proximity to Japan makes Thailand a popular destination for Japanese FDI.

The breakdown by industry is as follows: 76.7% of the subsidiaries are manufacturing firms, 15% of the subsidiaries are in wholesale/retail trade, 8% are in services, and the remaining 0.3% are regional headquarters (RHQs). As shown in Table B10, the three most common industries represented are construction (15.1%), automobiles (11.3%), and chemicals and pharmaceuticals (11.1%), which together accounted for 36.2% of the whole exits. Three industries are of note in this regard: although iron and steel, RHQ and real estate subsidiaries compose only 0.1%, 0.3% and 0.6% of the sample in terms of number of observations, they account for 1.2%, 2.4% and 3.6% of the whole exits, which are respectively 12, 8, and 6 times their representation. Indeed, RHQs are known for capitalizing on favorable tax regimes with their small size and relative mobility (Grimes, & White, 2005).

Table B11 reports the results for the extended Cox proportional hazard regressions. Model 1 includes the control variables only. Models 2 through 5 each include one of the core variables that together proxy for vulnerability: exposure, resources, and coping mechanisms. Model 2 adds the main-effect variables for threat and

²⁹ Thailand also account for fewer proportional exits than the Philippines or Indonesia, an issue which I address in the sensitivity analysis.

exposure. Models 3 and 4 introduce the resource-based arguments with the resources variables at the subsidiary level and the resource management variables at the parent level. Model 5 incorporates the subsidiary-level and parent-level variables for coping mechanisms. Model 6 represents the full model with the control variables and all three vulnerability components: exposure, resources and coping mechanisms.

As shown in Table B11, the full model has the best overall model fit, as it has the largest log likelihood and Wald Chi-squared statistic, as well as the lowest Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC) (Cleves et al., 2010). The Wald Chi-squared statistics are statistically significant for all models. Wald joint tests for the differences between the models are statistically significant, demonstrating that adding the hypothesized variables in each subsequent model to Model 1 significantly improved the model fit. The results are interpreted using the full model. For each independent variable, Table B11 provides its unstandardized coefficient and the robust standard error. As a conservative test of statistical significance, I use a two-tailed t-test. Following Hsieh and Lavori (2000), I computed power statistics ($\alpha = .05$; effect size = hazard ratio of 0.5). My results indicate that statistical power is approximately 0.94, which exceeds Cohen's (1988) recommended standard for a minimum power of 0.80.

The results from Table B11 are used to interpret both the likelihood *and* the timing of exit, as explained below. In the Cox proportional hazard model, the likelihood of exit can be adequately captured by the hazard probability, which is equal to 1 minus the survival probability, and defined as the probability that an event will occur in any

time period given that it has not occurred in earlier periods (Singer & Willet, 2003). In survival analysis, the survival probability, as represented by the survivor function $S(t)$, is obtained from the cumulative hazard function $H(t)$ (Kleinbaum & Klein, 2005):

$$S(t) = -\ln(H(t)), \quad (1.4)$$

which can in turn be derived for the *extended* Cox proportional hazard model by taking the integral of the hazard function from Equation 1.2:

$$H(t) = \int_0^t h(t)dt = \exp\left(\sum_{i=1}^{p_1} \beta_i X_i\right) \int_0^t h_0(t) \exp\left(\sum_{j=1}^{p_1} \delta_j X_j(t)\right) dt. \quad (1.5)$$

Equation 1.5 shows that time-independent covariates X_i only appear in the exponential term and not in latter portion $H_0(t)$, which consists of a baseline hazard function $h_0(t)$ as well as a vector of time-dependent covariates X_j . The cumulative hazard function in Equation 1.5 can be simplified by replacing the portion after the exponential term with $H_0(t)$ (Kleinbaum & Klein, 2005):

$$H(t) = \exp\left(\sum_{i=1}^{p_1} \beta_i X_i\right) H_0(t), \quad (1.6)$$

The survivor function used to interpret the likelihood of exit is obtained by substituting Equation 1.6 into Equation 1.4:

$$S(t) = -\left(\sum_{i=1}^{p_1} \beta_i X_i\right) - \ln(H_0(t)). \quad (1.7)$$

From Equation 1.7, it is apparent that if a covariate X_i is time-independent, wherein the latter logged component is a baseline hazard not dependent on X_i , then the probability of survival is a linear function of X_i . Given the negative sign for the first term, a positive coefficient β_i means that an additional unit of X_i predicts a lower probability of survival, which translates into a higher hazard probability or likelihood of exit; the opposite is true for a negative coefficient. Because a time-varying covariate X_j comprises

components in both terms of Equation 1.7, the probability of survival and thus the likelihood of exit for time-varying variables are contingent on both the main effect β_i and the time-dependent effect δ_j , which is equal to $\beta_i + \delta_j * (\text{function of analysis time})$.³⁰

Turning to the exit timing question, the coefficient for a covariate X_i can also be interpreted as representing the increase (or decrease) in the log of the instantaneous exit rate (hazard) with each additional unit of X_i (Kleinbaum & Klein, 2005). A positive coefficient β_i signifies an increase in the exit rate, which translates into earlier exit of the firm, and the reverse is true for negative coefficients (Tan & Vertinsky, 1996). Having shown the survivor function (hazard probability) and the hazard rate to both be linked to the coefficient β_i in a Cox proportional hazard model, I proceed to address the likelihood and timing questions using this statistic. The results are first outlined in Table B11, while the contribution of each explanatory variable is explained in further detail using Table B12.

Examining Table B11, I find the signs for the ownership type, subsidiary performance, peer exit, and parent size control variables to be consistent with theory and statistically significant at the $p < 0.001$ level. Thus, my model in characterizing exit also corroborates the organizational-learning, financial, mimetic isomorphism, and slack resources-based explanations of foreign exit. The per capita GDP variable is also

³⁰ In Stata 11, `texp(exp)` is used in conjunction with `tvf(varlist)` to specify the function of analysis time to be applied to time-varying covariates. For example, specifying `texp(log(_t))` would cause time-varying covariates to be multiplied by the logarithm of analysis time. I used `tvf(varlist)` without `texp(exp)`, which Stata understands as multiplying time-varying covariates by the analysis time t , in this case years.

statistically significant at the $p < 0.001$ level, with a positive sign, indicating that during war, the hazard of exit increases with a more concentrated marketplace.

With respect to the independent variables in Model 6, both threat and exposure have a positive impact on the likelihood and timing of exit. The effect of threat in the host country, as proxied by battle-related deaths, is positive and statistically significant (at the $p < 0.001$ level). Exposure, as measured by location in a war zone, is also statistically significant at the $p < 0.001$ level, with a positive sign. These results strongly support Hypotheses 1a and 1b postulating a positive relationship between exit (likelihood and timing) and generalized threat, as well as Hypotheses 2a and 2b regarding the effect of the exposure of a subsidiary on exit likelihood and timing.

According to Model 6 in Table B11, the arguments stemming from the resource-based view regarding whole exit are also supported. The irreplaceable resources variable is statistically significant (at the $p < 0.001$ level), with a positive sign, which means that subsidiaries with more irreplaceable resources are not only more likely to exit, but exit faster. Thus, Hypotheses 3a and 3b received strong support. I predicted that irreplaceable resources reduce the *delayability* of exit, which translates into earlier exit, while immobile resources reduce the *reversibility* of exit, which constrains exit both in terms of likelihood and timing. Also consistent with my theory, the immobile resource variable has a negative sign, and is statistically significant at the $p < 0.05$ level (p-value = 0.020), providing support for Hypotheses 4a and 4b.

Furthermore, the main effects of the three resource management variables are all statistically significant at the $p < 0.01$ level, providing support for the resource

management arguments tested at the parent-level of analysis (Hypotheses 5, 6, and 7). The positive signs for all three variables validate my theory that while certain attributes of resources (i.e., irreplaceability and immobility) increase firm vulnerability in volatile environments, the firm's capabilities in managing resources can reduce vulnerability and more importantly facilitate exit from such environments.

As distinct from the other predictors, the variables for structuring capabilities and deployment capabilities featured time-dependent components, which are accounted for in the extended version of the Cox proportional hazard model. Reverting to Equation 1.2, because the coefficient β_i of the time-independent component is positive for structuring capabilities while its coefficient δ_j of the time-dependent component is negative, its estimated effect on exit is positive overall but decreases as t increases (Singer & Willet, 2003). Thus, Hypotheses 5a and 5b are supported. The same signs for these two components of deployment capabilities suggest that, as predicted, it also has a general positive influence on the likelihood and timing of exit, with a decreasing effect over time. As such, Hypotheses 7a and 7b are supported.

While bundling capabilities displayed a time-dependent component in Model 4 of Table B11, it is modeled with only a baseline effect in the full model.³¹ The sign for the bundling capabilities variable is consistent with its predicted positive impact on exit, providing support for Hypotheses 6a and 6b. It is interesting to note that all three resource management time-dependent effects in Model 4 exhibit statistical significance

³¹ In the Schoenfeld residuals tests for the proportional-hazards assumption of the Cox proportional hazard model, I tested whether the log hazard-ratio function is constant over time for each predictor. The p-value for bundling capabilities was not significant, indicating that I could not reject the null hypothesis that this variable meets the proportional-hazards assumption. As the bundling capabilities variable exhibits a constant effect over time in the full model, I could not specify a time-varying component therein.

at the $p < 0.001$ level when considered alone with the controls. The negative signs for the time-dependent components suggest diminishing marginal returns for the parent's structuring and deployment capabilities, compared to bundling capabilities.

I predict that while exposure and certain types of resources increase a subsidiary's vulnerability, coping mechanisms reduce its vulnerability and in turn the need to exit. Consistent with my theory, coping mechanisms at the subsidiary level reduce both the likelihood and speed of exit. With no embeddedness as the baseline, both low and high levels of embeddedness have negative signs and statistical significance levels of $p < 0.05$ and $p < 0.01$, respectively, the latter providing support for Hypotheses 8a and 8b.

Interestingly, medium embeddedness featured a positive sign, although it was not statistically significant. A likely explanation is that while less embedded subsidiaries may not have the political and operational skills to transfer their operations elsewhere and highly embedded subsidiaries may have incentives to stay in the host country due to path dependence and local ties, average-embedded subsidiaries may have not only less reason to stay than highly-embedded subsidiaries, but also more ability to switch to another country than less-embedded subsidiaries. Of note also is that as with the other parent-level variables for resource management, the parent-level coping mechanisms variable, war zone experience, has a positive sign and is statistically significant at the $p < 0.01$ level, lending support to Hypotheses 9a and 9b.

Practical Significance: Exit Likelihood and Exit Timing Results

In Table B12, the results are presented using hazard ratios, which I use below to elaborate on the practical significance of the findings.³² In Model 6, the first two hypothesized variables have hazard ratios greater than one (ranging from 1.02 to 1.70), indicating that increases in the levels of threat and exposure increase the likelihood that and the speed with which a subsidiary will exit in whole from the host country. Based on the hazard ratio reported for battle deaths in Model 6, I can determine that each additional 1,000 battle-related deaths in the host country would have increased the likelihood of subsidiary exit by 2.43%. Furthermore, if the unit of this variable were 10,000 deaths, then the likelihood of exit would have increased by 24.3%. In the sample, 7% of the subsidiaries encountered more than 10,000 battle-related deaths.

Even more salient is the hazard ratio of 1.7 for war zone, which means that the odds of exiting by a subsidiary located within a war zone are 70% higher compared to subsidiaries located outside of the war zone. As shown in Figure A5, the solid hazard function for subsidiaries located inside of war zones is substantially higher than the dashed hazard function for those located outside of war zones, which points to the higher likelihood and speed of exit for subsidiaries with more exposure to the violence. This result highlights the substantive impact of operating inside a war zone, beyond being in a country at war, on various exit outcomes. Specifically, while threat at the country-level increased the likelihood of exiting in whole by 2.43%, analysis at the sub-national level

³² The relationship between the hazard probability and the coefficient β_i is such that for each unit increase in a predictor, the hazard is multiplied by its exponentiated coefficient. Further computation using the equation $100(e^{\text{coefficient}} - 1)$ provides the hazard ratio, or the percentage change in the hazard with each one unit change in the predictor. A higher hazard ratio translates into a higher likelihood of exit (Tan & Vertinsky, 1996).

revealed a stark difference in the reactions of firms in the same warring country. The results in Table B12 thus allow me to articulate the substantive or practical significance of my findings.

The hazard ratios reported in Model 6 of Table B12 show that the impact of the irreplaceable and immobile resources variables are also practically – as well as statistically – significant; for subsidiaries with an additional unit in the quantity of irreplaceable resources, the likelihood of exiting in whole increase by 9.7%. Furthermore, for subsidiaries that have significant amounts of immobile resources (a dummy variable), the likelihood of exiting is 37% lower. Figure A6 depicts the lower likelihood and speed of exiting for subsidiaries that have immobile resources (solid line) compared to those that do not have immobile resources (dashed line). Thus, although the possession of irreplaceable resources increases exit by almost 10%, I find that the presence of immobile resources substantially constrains the likelihood that and the speed with which a subsidiary will exit from the host country.

Turning to the parent level of analysis, a one unit increase in the amount of structuring capabilities is associated with a 3.1% increase in the likelihood as well as the speed of exit. However, the time-dependent effect indicates that additional unit increases in structuring capabilities in each subsequent year will reduce the likelihood and speed of exit by 0.2%. Bundling capabilities lacked a time-dependent dimension, so that a one unit increase raised the likelihood and speed of exit by 0.4%. Leveraging capabilities displayed the strongest effects of the three variables, wherein a one unit increase in this variable increased the likelihood and speed of exit by 22.6%, an effect that is reduced by

3.6% with additional increases in each subsequent year. All in all, my theory predicting a positive impact of resource management capabilities on exit likelihood and timing is supported, given the small negative time-varying effects relative to the main effects.

In line with my theory, subsidiaries with coping mechanisms in the form of high embeddedness are less likely to exit in whole. As shown in Model 6 of Table B12, highly embedded subsidiaries as denoted by the possession of political protection, a production network, and a distribution network in the host country are 34% less likely to exit or exit earlier than those with no embeddedness. Figure A7 shows that highly embedded subsidiaries are less likely to exit than subsidiaries that are not embedded in the host country. Coping mechanisms at the parent level, however, have the opposite effect on exit. For parents with an additional subsidiary-year of war zone experience, the likelihood and speed of exit increase by 5%. If the unit for this variable were 10 subsidiary-years then the parent would be 50% more likely to exit. In the sample, 34% of the parents have 10 subsidiary-years' worth of experience or more in war zones.

Exit Mode

To test the exit mode hypotheses, separate statistical models corresponding to the order for the first two research questions were estimated for the control variables, the control variables plus each sets of the exposure, resources, resource management, and coping mechanisms predictors, and finally the control variables and all predictors. The results of the logit regressions are reported in Table B13, and are interpreted using the full model with partial exit as the baseline category.

As shown in Table B13, the full model has the best overall model fit, as it has the largest log likelihood and Wald Chi-squared statistic, as well as the lowest Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC) (Cleves et al., 2010). The Wald Chi-squared statistics are statistically significant for all models. Wald joint tests for the differences between the models are statistically significant, demonstrating that adding the hypothesized variables in each subsequent model to Model 1 significantly improved the model fit. For each independent variable, Table B13 provides its unstandardized coefficient and the robust standard error. As a conservative test of statistical significance, I used a two-tailed t-test. Following Hsieh and Lavori (2000), I computed power statistics ($\alpha = .05$; effect size = odds ratio of 1.5). My results indicate that statistical power was approximately 0.85, which exceeded Cohen's (1988) recommended standard for a minimum power of 0.80.

Examining Table B13, I find the ownership type and parent size control variables to be negative in sign and statistically significant at least at the $p < 0.05$ level. Thus, my model shows that wholly owned subsidiaries and those whose parents have more financial slack are less likely to exit in whole than in part. Those control variables with positive signs and statistically significant at least at the $p < 0.05$ level suggest that subsidiaries with poor performance, and those in countries with high per capita GDP or high GDP growth are more likely to exit in whole than in part.

With respect to the independent variables in Model 6, both threat and exposure increase the likelihood of whole exit compared to that of partial exit. The effect of threat in the host country, as proxied by battle-related deaths, is positive and statistically

significant (at the $p < 0.001$ level). Exposure, as measured by location in a war zone, is also statistically significant (at the $p < 0.001$ level), with a positive sign. These results strongly support Hypothesis 1c postulating a positive relationship between whole exit and generalized threat, as well as Hypothesis 2c regarding the positive effect of subsidiary exposure on whole exit vs. partial exit.

According to Model 6 in Table B13, the arguments stemming from the resource-based view regarding whole exit are partially supported. The irreplaceable resources variable is not statistically significant, resulting in a lack of support for Hypothesis 3c. However, the immobile resources argument in Hypothesis 4c is strongly supported, as the immobile resource variable has a negative sign, and is statistically significant at the $p < 0.001$ level.

The resource management arguments are partially supported. The positive sign for the bundling resource management variable corresponds to the argument that parent level capabilities in developing capabilities intrinsic to strategic flexibility can facilitate whole as opposed to partial exit from warring countries. The bundling variable is statistically significant in the full model (at the $p < 0.01$ level), providing support for Hypothesis 6c. Although the deployment variable displays a negative sign that contradicts the theory, it is not statistically significant. Thus, Hypothesis 7c is not supported. It is interesting to note that although the structuring capabilities variable is not statistically significant in the full model (Hypothesis 5c is not supported), it is statistically significant (at the $p < 0.001$ level) and with the predicted positive sign in Model 4, in which the resource management variables are entered only with the control

variables. However, this result is accompanied with the caveat that the bundling capabilities variable is not statistically significant in Model 4.

My theory predicts that while exposure and certain types of resources increase a subsidiary's vulnerability, coping mechanisms reduce its vulnerability and in turn the need to exit. Consistent with such theory, coping mechanisms at the subsidiary level reduce the likelihood of whole exit as opposed to partial exit. With no embeddedness as the baseline, both low and high levels of embeddedness have negative signs and statistical significance levels of $p < 0.001$ and $p < 0.01$, respectively. Medium embeddedness also features a negative sign, although it is not statistically significant. Accordingly, Hypothesis 8c is supported. Parent coping mechanisms has a positive sign and is statistically significant at the $p < 0.01$ level, lending support to Hypothesis 9c. Thus, parent-level coping mechanisms, as with certain parent-level resource management capabilities, increase the likelihood of exiting in whole vs. exiting in part.

Practical Significance: Exit Mode Results

I endeavor to interpret the practical significance of the results for exit mode using odds ratios, which I explain briefly below. The binomial logit model has the following formulas for the outcomes of the dependent variable, which are probabilities that take on values between 0 and 1:

$$\Pr(y = 0) = \frac{1}{1+e^{\beta X}} \quad (1.8)$$

$$\Pr(y = 1) = \frac{e^{\beta X}}{1+e^{\beta X}} \quad (1.9)$$

In my model, partial exit is denoted by 0 (Equation 1.8) and whole exit by 1 (Equation 1.9). Here, partial exit is the “referent” category in the dichotomous dependent

variable. Since the odds ratio is defined in terms of the exponentiated coefficient e^β , it is apparent from Equation 1.10 that the odds ratio captures the relative probability of whole to partial exit given one unit of X :

$$\frac{\Pr(y=1)}{\Pr(y=0)} = e^\beta \quad (1.10)$$

This effect can also be expressed in terms of the percentage change in the outcome attributable to a one-unit change in the independent variable by using the following equation from Pampel (2000: 23):

$$\% \Delta = (e^\beta - 1) \times 100 \quad (1.11)$$

For example, if the odds ratio for a covariate X is 0.8, then relative to partial exit, whole exit has a 20% *lower* likelihood of occurring, as per Equation 1.11. If instead I make whole exit the referent category, the odds ratio of partial exit to whole exit would then be the inverse of the odds ratio for the case where partial exit is the referent category. To take my previous example, the odds ratio for comparing partial exit to whole exit is simply the inverse of 0.8, which is 1.25, so that partial exit has a 25% *higher* likelihood of occurring than whole exit. Notice that taking different baselines for the exit mode dependent variable obscures the alleged relationship between the 20% lower likelihood of whole exit with respect to partial exit and 25% higher likelihood of partial exit with respect to whole exit from the same underlying model.

Table B 14 is used in interpreting the practical significance of the findings, where the odds ratios are presented with partial exit as the referent category.³³ In Models 2 and

³³ The results from Model 6 in Table 15 are also interpreted with respect to partial exit using whole exit as the referent category.

6, the hypothesized variables have odds ratios of greater than one (ranging from 1.050 to 3.134), indicating that increases in both threat and exposure increase the likelihood that a subsidiary will exit in whole than in part. Based on the odds ratio reported for battle deaths in Model 6, I can determine that the odds of a whole exit is 6.3% higher than the odds of a partial exit with each increase of 1,000 battle-related deaths. Furthermore, if the unit for this variable were 10,000 deaths, then the likelihood of whole exit relative to partial exit would increase by 63%. In the sample, 7% of the subsidiaries encountered more than 10,000 battle-related deaths. From Table B15, I can see that alternatively speaking, each additional 1,000 battle-related deaths in the host country would have decreased the likelihood of partial exit relative to whole exit by 6%, or 60% with 10,000 deaths as the unit of measurement.

Even more salient is the odds ratio of 3.134 for exposure, which means that the odds of exiting in whole for a subsidiary located in a war zone is 213.4% higher than its odds of exiting in part. Conversely, Table B15 shows that the odds of exiting partially for a war zone subsidiary are 68% lower than that of exiting wholly, which reinforces my earlier finding of the war zone subsidiary being 70% more likely to exit than not. While threat at the country-level increased the likelihood of exiting in whole than in part by 6.3%, analysis at the sub-national level indicated that subsidiaries are much more likely to drastically shift between different modes of exit depending on their level of exposure to war in the host country.

The hazard ratios reported in Model 6 of Table B14 show that the impact of the immobile resources variable is also practically – as well as statistically – significant; for

subsidiaries with an additional unit in the quantity of immobile resources, the likelihood of exiting in whole than in part decrease by 63.7%. In other words, for subsidiaries that have significant amounts of immobile resources, the likelihood of exiting partially is 175.6% higher than that of exiting in whole, according to Model 6 in Table B 15. As such, I find that the presence of immobile resources substantially constrains the mode with which a subsidiary is able to exit from the host country. The lack of support found for the irreplaceable resources variable corresponds to the emphasis of my theory on the saliency of its role more in the *delayability* rather than the *irreversibility* of exit. While irreplaceable resources do not seem to affect the mode of exit, my earlier analysis of exit timing showed that irreplaceable resources significantly reduce the delayability of exit.

My theory predicting a negative impact of resource management capabilities on partial exit relative to whole exit also offers some practical significance. As shown in Table B 14, bundling capabilities yields an odds ratio that is less than 1, so that a one unit increase in this variable reduced the likelihood of a partial exit relative to whole exit by 48.7%. This effect is more pronounced when interpreted using the results from Table B15, where subsidiaries whose parents have one additional unit of bundling capabilities are 95.1% more likely to exit in whole than in part.

Consistent with my theory and earlier analysis of the likelihood of exit, subsidiaries with coping mechanisms in the form of high embeddedness are less likely to exit in whole than in part. As shown in Model 6 of Table B14, highly embedded subsidiaries with political protection, a production network, and a distribution network in the host country are 55.3% less likely to exit in whole than in part as compared to those

with no local embeddedness. Conversely, such highly embedded subsidiaries relative to their un-embedded counterparts are 123.8% more likely to exit partially than completely, according to Table B15. I also found subsidiaries with any one of the aforementioned embeddedness attributes to be, as compared to un-embedded subsidiaries, 49.6% less likely to exit in whole than in part, or 98.3% more likely to exit in part than in whole.

As with the exit likelihood and timing results, I found coping mechanisms at the parent level to have the opposite effect to coping mechanisms at the subsidiary level. For parents with an additional subsidiary-year of war zone experience, the likelihood of whole exit increase by 6.4% as compared to partial exit. If the unit for this variable were 10 subsidiary-years then the parent would be 64% more likely to exit in whole than in part. In the sample, 34% of the parents have 10 subsidiary-years' worth of experience or more in war zones. Framed differently using Table B15, each additional subsidiary-year of war zone experience would have reduced the likelihood of partial exit relative to whole exit by 6%, or 60% with 10 subsidiary-years as the unit of measurement.

Robustness Checks and Post Hoc Analysis

The results in my dissertation are robust to a variety of sensitivity analyses. Because I cannot specify with certainty the baseline hazard function form of wars, I chose the Cox proportional hazard model. However, a parametric model, if found to be adequate, would lead to more precise estimation of survival probabilities and contribute to a better understanding of the phenomenon under study (Singer & Willet, 2003). So as to not preclude the possibility that wars can conform to a specific hazard distribution, I tested my full model of exit likelihood and timing with various parametric survival

techniques. The results from parametric models using the exponential, Gompertz, loglogistic, Weibull, lognormal, and gamma distributions are consistent with those from the Cox proportional hazard model. Because I do not directly estimate the baseline hazard of wars, I take the more conservative approach and present the results from the Cox proportional hazard model.

To test the robustness of the exit mode results, I applied alternative statistical methods designed to treat dichotomous dependent variables. First, I employed probit regression, which should only be chosen over logit regression if there is a strong belief that the underlying distribution is normal rather than logistic and the actual outcome is not binary (e.g., exit in whole/exit in part) but a proportion (e.g., proportion of expatriates exited) (Agresti, 2002). I then tested my arguments using complementary log-log analysis (related to the gompit model, so named because of its relationship to the Gompertz distribution), which is an alternative to logit and probit analysis, but different in that its transformation is not symmetric. The regressions yielded very similar results to the logit regression, with all variables retaining their predicted signs and statistical significance levels. As Beck, Katz, and Tucker (1998) note, the distinction between logit, probit, and cloglog is often trivial, although they recommend the logit model because of its greater familiarity. For this reason, and for the non-normal distribution of the data and the better fit of the logit model, I report the results from the logit regressions.

In testing the robustness of the results I also considered alternate measures for several of my independent variables. First, I created an alternate measure for the exposure variable. Instead of using a dummy variable to distinguish whether subsidiaries

were located in a war zone, I calculated the distance in kilometers between the GIS coordinates of the subsidiary and the center point of the war zone.³⁴ In both the exit likelihood/timing and exit mode models, the estimated coefficient exhibited a negative sign as expected, and statistical significance at the $p < 0.05$ level. Specifically, subsidiaries more distant to the war zone were less likely to exit and exit early and in whole, and conversely more proximal subsidiaries were more likely to exit, and do so early and fully, lending further support for the exposure argument.

Second, I considered different ways of measuring coping mechanisms at both the subsidiary and parent levels. As an alternative to the subsidiary-level local embeddedness variable, a social ties variable proxied by the presence of a local partner was employed. Local partners not only have knowledge about local competitors, but also local networks that can provide subsidiaries with timely information on changes in the local environment and indirect ties to political entities in the host country. Scholars have suggested that it might not be the proportion of the local partners' ownership or the number of local partners that is important, but whether a subsidiary has any local partners at all in order to blend into the local society (Makino & Delios, 1996). Thus, I constructed a dummy variable that assumes a value of 1 if the subsidiary has one or more local partners in the host country and 0 otherwise. In the full models for both exit likelihood/timing and exit mode this variable exhibited the predicted signs and statistical significance at the $p < 0.05$ level. Thus, being socially embedded through ties with local partners reduces the likelihood of exit, as well as the speed and completeness of exit.

³⁴ I used the closest war zone if there were more than one war in the host country in a given year.

I also substituted host country experience for war zone experience to check the robustness of the coping mechanism variable across levels of analysis. Henisz and Delios (2004) showed that embeddedness increases with tenure in the host country. This variable is the longevity of the parent in the host country since the founding of its first subsidiary (Yiu & Makino, 2002), and proxies for the extent of firm reputation and social networks in the host country. In the full models for both exit likelihood/timing and exit mode this variable exhibited the same signs as the war zone experience variable and statistical significance at the $p < 0.001$ level, providing strong support for the consistency of the effects of coping mechanisms at the parent level of analysis. In particular, having a parent with more country-specific experience enabled a subsidiary to exit both with speed and completeness to prevent losses.

Because the majority of the whole exits in the sample were firm closures rather than sell-offs of foreign capital (86% to 14%), I ran the full models treating only actual closures as whole exits. The results remained qualitatively the same, although the variables for immobile resources and embeddedness lost some statistical significance. I also considered the impact of the characteristics of the war on the likelihood, speed and mode of exit. Since 3.2% of the sample firms encountered interstate wars, 91.2% encountered civil wars, and 5.5% encountered both, I ran the full models with just the subsidiaries that encountered civil wars and the results were mostly consistent for the exit likelihood/timing model and even more statistically significant with all predicted signs the same in the exit mode model.

I then checked the sensitivity of my results to certain countries in my sample. Given that subsidiaries in Thailand accounted for such a large portion of the sample, I ran the full models without Thailand. The results were again as expected or even better, except that the embeddedness variable at the high level lost statistical significance in the exit mode model. In addition, I tested the robustness of my exit mode model to contemporaneous correlation by running it without the time dummy variables. The results were practically unchanged. Finally, I ran the full model with all variables unlagged, and the results remain unchanged, except for the bundling capabilities variable. In all the alternate models, variable signs stayed the same.

Heckman Sample Selection Model

In deliberately studying existing subsidiaries' reactions to wars in the host country, I used a sample that contains only foreign MNEs that entered potentially unstable countries, which may raise questions about possible sample selection concerns. However, the fact that I limit my sample to subsidiaries established prior to the occurrence of war in their respective host countries makes my outcome of interest – exit during war time – and entry largely independent of each other. That is, because the countries in my sample were not especially different from the population of all countries worldwide *prior* to the occurrence of war (i.e., the International Political Risk Services Country Political, Financial, and Economic composite risk rating for my sample countries varies from 14.5 to 86.7 on a scale of 0 to 100), I can treat my study as a conventional exit study; there is no need to correct for the fact that I selected a sample of firms that entered countries with imminent wars to the neglect of firms that did not.

There may be sample selection issues had I intended to analyze the differences in exit outcomes between firms in warring countries and non-warring countries, for which their initial choice of location would have likely influenced their motivation and capability in subsequent exits. However, as I seek to infer about the exit strategies of MNEs in foreign countries that *encounter* wars after they have already established their subsidiaries, which precisely constitute the sample under analysis, this dissertation does not face the threat of sample selection bias. That is, I alleviate endogeneity concerns for the exit likelihood research question by examining the impact of war on firm strategy only for a sample of firms exposed to war, an approach to sample selection that parallels Nixon et al.'s (2004) study that examined the impact of downsizing on a sample of downsized firms only. As well, I use lagged independent variables and controls where necessary to control for endogeneity.

Because the initial exit decision may be determined by unobserved firm motivations, past choices, or unobserved characteristics of the host country investment environment (Argyres & Liebeskind, 2002), I replicated the exit mode results from the analysis using the Heckman selection model in which I implemented the two-stage procedure to estimate the likelihood of exit³⁵ before estimating the mode of exit. Non-random, unobserved factors that influence both the likelihood of exit and the mode of exit could otherwise lead to biased or spurious results (Hamilton & Nickerson, 2003). To remedy model misspecification due to unobserved factors, I employed a first-stage model that generated a selection term to correct for endogeneity in the subsequent

³⁵ Because this is a selection model, the outcome used in the first stage model is exit vs. no exit.

second-stage logit analysis (Heckman, 1979). This procedure allows me to calculate a control variable, commonly referred to as the inverse Mills ratio, from the results of the first-stage probit model predicting the outcome, *exit likelihood*, which is a dummy variable that indicates whether the subsidiary undertook an exit.

Entering the inverse Mills ratio into the second-stage logit regression model removes any bias in the regression coefficients by accounting for endogeneity and sample selection (Shaver, 1998). However, proper identification of the inverse Mills ratio requires that variable(s) entered be correlated with the first-stage probit model's outcome (i.e., *exit likelihood*), but not with the second-stage performance model's outcome (i.e., *exit mode*) (Leiblein, Reuer, & Dalsace, 2002; Shaver, 1998). In the first-stage model, I entered the independent and control variables used to predict exit likelihood and an instrument capturing the degree of policy stability in the host country. Taken from Henisz's (2002) Political Constraint Index (POLCON) Dataset, this measure estimates the feasibility of policy change – the extent to which a change in the preferences of any one actor may lead to a change in government policy. Given my conjecture that it affects exit likelihood but not necessarily exit mode, *policy uncertainty* is the instrumental variable entered in the first-stage probit model, but not in the second-stage exit mode model (Greene, 2003).

As shown in Table B16, the rho from the Heckman probit model is statistically significantly different from zero (Wald $\chi^2 = 12.49$, with $p = 0.0004$), which indicated the presence of sample selection bias (dependence of the error terms from the outcome and selection models). The results indicate that most of the explanatory variables affected the

mode of exit as expected, except coping mechanisms at the parent level of analysis. However, the sign for this variable is nonetheless consistent with the findings in the exit likelihood and timing models. The coefficient for threat is positive and statistically significant at the $p < 0.001$ level, providing strong support for Hypothesis 1c. The coefficient for exposure is also positive and statistically significant at the $p < 0.01$ level, thereby providing support for Hypothesis 2c. The coefficient for irreplaceable resources is not statistically significant, thereby not providing support for Hypothesis 3c. However, the immobile resources variable is statistically significant at the $p < 0.01$ level, providing support for Hypothesis 4c.

All three resource management variables exhibit the predicted positive influence on whole exit relative to partial exit, although only structuring and bundling are marginally statistically significant at the $p < 0.10$ levels. Thus, Hypothesis 5c and 6c are marginally supported, while Hypothesis 7c is not supported. Finally, the results show that the coping mechanisms variable at the subsidiary level has a negative coefficient and is statistically significant at the $p < 0.05$ level. As such, Hypothesis 8c received support. Coping mechanisms at the parent level has a positive coefficient, providing strong support for Hypothesis 9c with statistical significance at the $p < 0.001$ level. As a matter that pervades all of the models and specifications in my dissertation but especially the Heckman probit model, test statistics such as Wald statistics (t ratios) tend to be too large when based on the analytic estimator of the asymptotic variance, even if the coefficients are not (Greene, 2003). Because Wald statistics require computation of the full maximum likelihood estimates (Dubin & Rivers, 1990), the likelihood function of

the Heckman probit model in Stata did not yield a Wald Chi Square statistic, which contrasts with the strong explanatory power of the earlier logit model.

I do not use the Heckman results as the focus for hypothesis testing, and instead address the exit mode research question using the results from the logit regressions. The econometric approach in the Heckman probit model relies on theory for guidance in modeling the selection process (Dubin & Rivers, 1990). Unlike in the study by Shaver (1998), who implemented a selection model on entry mode choice to examine entry mode performance, where the entry mode choice literature was well established, my choice of the regressors for likelihood of exit is not driven by existing theory. Hence, I followed Delios, Xu, and Beamish (2008) in approaching the issue of sample selection statistically, rather than theoretically and then empirically, as a way to check for sample selection bias. While this process creates risks to its successful implementation, the Heckman selection model is not without its own weaknesses (Sartori, 2003). Although the Heckman two-stage probit model does provide some insight into potential selection issues for the exit modes chosen for an exit strategy, the primary logit specifications are more theoretically sound than the Heckman selection model.

CHAPTER VI

DISCUSSION AND CONCLUSION

This dissertation draws attention to a form of political violence – war – that holds extensive implications for MNEs worldwide. While scholars in other fields have studied the macro-level outcomes of political conflict (Alesina, et al., 2003; Biglaiser & DeRouen Jr, 2007; Li, 2006) and rendered descriptive accounts of firm complicity in war zones (Frynas & Mellahi, 2003; Keen, 2008; Møller, 2005; Oetzel, et al., 2007; Wolf, et al., 2007), I advance a firm-vulnerability perspective to explain firm-level strategy in warring countries. The adoption of this perspective acknowledges the critical role of extreme events in shaping the MNE's operating context and strategic responses. In particular, I develop theory to predict the foreign exit decisions of MNE subsidiaries as a function of their differential vulnerability to war.

Researchers have suggested that firms differ in their susceptibility and reactions to environmental uncertainty (DiMaggio & Powell, 1983; Levitt & March, 1988). Moreover, prior work shows that organizational variance in susceptibility to uncertainty stems from heterogeneity in organizational resources or capabilities (Miner, Amburgey, & Stearns, 1990), and organizational information (Haunschild, 1994; Haunschild & Miner, 1997). I accordingly characterized firm vulnerability as a property of the relationship between the subsidiary and its environment consisting of three components: exposure to external perturbations, at-risk irreplaceable and immobile resources, and coping mechanisms as a function of information advantages. In addition, I separated the threat of war into its general and specific components, the latter of which is essentially a

subsidiary's exposure to war. Inherent in the exit decision is the subsidiary's ability to increase its likelihood of survival through a war, which I account for by incorporating into my vulnerability framework the subsidiary's "immune system", which consists of its short-run coping mechanisms and long-run adaptive capacity.

The findings provide substantial empirical evidence for my model linking firm attributes to foreign exit decisions in an extreme context. My theoretical underpinnings suggest that in confronting an environmental change such as war, firms with the resources, capabilities and incentives to undertake greater foreign commitments in a location-specific sense will be more exposed with regard to their investments compared to other firms. That is, superior resources that a firm would normally leverage for a competitive advantage may make it weak in a context in which these resources are subject to threat. I expected that, when deployed in a warring context, physical assets and human capital critical to creating a competitive advantage in any other setting may actually raise the probability of firm losses as a result of increased exposure and greater firm vulnerability. The results show that high vulnerability of the firm to war leads to exit. Furthermore, subsidiaries with parents high in strategic flexibility may exit not out of necessity due to increased vulnerability but rather as a result of their superior capabilities in adapting to various contexts outside of the war zone.

Specifically, 1) the generalized threat of war in the host country increases the likelihood, speed, and size of exit; 2) the exposure of a subsidiary to the threat from war affects these outcomes of exit in the same direction, with greater magnitude; 3) the subsidiary's resources have conflicting effects on exit, such that irreplaceable resources

reduce the *delayability* of exit in leading to early exits, and immobile resources increase the *irreversibility* of exit, thereby inducing partial exits; 4) the resource management capabilities of the subsidiary's parent facilitate early and whole exits out of war zones; and 5) while coping mechanisms of the subsidiary reduce the likelihood of exiting early and wholly, at the parent level of analysis they have the opposite effect on exit outcomes. The likelihood of exit, in addition to being a positive function of the subsidiary's exposure and vulnerability to war and its parent's strategic flexibility and experience, is also a negative function of the MNE's motivation and capability for staying.

Given the increased presence of MNEs in uncertain environments, foreign exit warrants attention as a strategic decision with a largely irreversible de-commitment of resources, i.e., the act of exit is hard to reverse. I began my analyses by empirically establishing the positive baseline effect of war on subsidiary exit from the host country. Beyond the effect of threat, I detected an even stronger influence of exposure, or geographical proximity to the locus of violence, on subsidiary exit. As such, our understanding of firm response to environmental shocks can be improved through analysis at the sub-national level, which allows for more fine-grained analysis of regional differences. While the international business literature has largely focused on the country (or more recently on regions composed of several countries) as the unit of analysis, paying attention to variation within countries can offer more accurate evidence for the sensitivity of MNE decisions to locational determinants (Zhou, Delios, & Yang, 2002), such as wars. Importantly, my results indicate that examining war from only either the sub-national or firm level can be misleading because, even as all foreign

subsidiaries may variably suffer from exposure in a warring country, they are also distinguishable in their differential vulnerability to the threat from war.

My theory proposes that in addition to deciding 1) whether it *should* exit, as determined by the presence of irreplaceable assets, the subsidiary has to also consider 2) whether it *can* exit, as dictated by the extent of its immobile resources in the host country. In a warring context, while what the subsidiary *should* do is contingent on a calculus between profit maximization and loss minimization, what it *can* do depends on constraints such as barriers to exit. While firm-specific advantages allow MNEs to invest abroad, their presence generates irreplaceable resources that may be “sacrificed” during war by parents that may wish to retain long-term market share or otherwise remain in the host country. Given the irreversible nature of whole exits as rendered by immobile resources, the strategy of partial exit may be useful in facilitating both the “wait-and-see” option and the potentially valuable option of re-entry into the host country.

In contrast to resources that can inadvertently increase the subsidiary’s vulnerability in a warring environment and lead to exit, resource management capabilities of the parent lead to exit for different reasons. While partial exit enables valuable re-entry should host country prospects improve, the strategic salience of a single subsidiary from the parent’s vantage point may be less attractive than opportunities that can arise from exercising global strategic flexibility. Highly uncertain circumstances provide an MNE adept in managing resources across borders with the incentives to shift operations elsewhere. The results reinforce Chung et al.’s (2010) finding that during times of economic crisis, MNEs with a stronger focus on across-

country operational flexibility are better positioned to take advantage of their multinational networks.

I extend Chung et al.'s (2010) results by showing that the structuring, bundling and deployment capabilities of an MNE increase both the likelihood and speed of exit by its subsidiary. My results support recent empirical work showing that the number of an MNE's foreign subsidiaries is likely to decrease in response to major perturbations in the host country, such as terrorist attacks or technological disasters (Oh & Oetzel, 2011). The reason for more partial exits by MNEs with expertise in structuring and deploying resources may be that they are more knowledgeable and efficient in actions – such as partial exit – associated with assembling and deconstructing a global portfolio of subsidiaries. Alternatively, MNEs with bundling capabilities may be more concerned with pioneering the *content* of the portfolio, which may warrant whole exits in order to accommodate de novo subsidiaries that diverge from the parent's traditional industries.

Support for my model suggests that in contrast to exposure and resources that increase firm vulnerability, coping mechanisms are necessary antecedents to subsidiary resilience that in turn allow for survival in unstable environments. An MNE able to structure, control and bundle its resources across countries may be unable to create and appropriate value unless it can effectively use its capabilities in a particular marketplace (Lichtenstein & Brush, 2001). The results show that especially in a warring country, coping mechanisms are necessary to facilitate such utilization of firm resources. More interestingly, coping mechanisms at the subsidiary and parent levels can exert disparate influences on the exit strategies of subsidiaries. As a result of their reduced vulnerability,

highly embedded subsidiaries, such as those with political ties, operational imperatives such as production and distribution concerns, and social ties via local partners are more likely to stay in the host country or exit only later on and partially.

At the MNE level, coping mechanisms in the form of operating experience in war zones actually increase the likelihood of early and whole exit. The findings are consistent with prior research showing that awareness of how past investment decisions and strategic orientations affect specific subsidiaries during crises can provide managers with *a priori* insight that aid in proactive strategies (Chung et al., 2010). That is, even though experience may desensitize managers to war and encourage staying in the host country, the repertoire of know-how accumulated for adapting to various war zones is also conducive to strategic flexibility. As such, while coping mechanisms of the subsidiary help to sustain the survival of its operations during turbulent times, the war zone experience of the parent imparts adaptive capacity on the subsidiary, which, given a baseline inclination of firms to minimize losses during war, serves to facilitate exit.

Thus, similar to resource management capabilities, MNE adaptive capacity increases the likelihood, speed, and completeness of exit from warring environments. The results suggest that coping mechanisms that lead to staying in a host country are developed on the ground in subsidiaries, whereas parents tend to cope by leveraging their strategic flexibility and adaptive capacity. All the predictors expectedly lead to fast and whole exit from a warring country save for immobile resources that – albeit due to their constraining as opposed to survival-enhancing effects – have a similar influence to coping mechanisms in promoting staying. Thus, the results provide evidence that war in

the host country increases exit for all except two types of firms: those that cannot exit and those that possess immediate means of improving survival chances – coping mechanisms within the subsidiary rather than adaptive capacity at the parent level.

With this work I sought to broaden the scope of the resource-based view in redefining the boundary conditions of valuable, rare, inimitable, and non-substitutable (VRIN) resources. Specifically, I identified two additional attributes intrinsic to the mobilization of VRIN resources in extreme contexts – irreplaceability and immobility. While VRIN resources promote FDI because of their utility in reducing an MNE's costs of doing business abroad, their irreplaceability increases the urgency of exit in a war zone even as their immobility constrains the magnitude of exit. As such, the VRIN resources that endow an MNE with the motivation and capability to establish a subsidiary abroad may also serve as its barriers to exit, or its "Achilles heel", in the event of a drastic environmental change. Even as the resource-based view attributes the existence of a sustainable competitive advantage to VRIN resources, it does not account for the potential alteration of the firm's context caused by discontinuous events such as war that increases its vulnerability abroad. The typology of resources presented in this dissertation initiates a new theoretical lens for understanding how the irreplaceable and immobile attributes of resources influence various types of MNE strategic decisions.

Furthermore, while prior research has conceptualized subsidiaries as real options of the MNE (Belderbos & Zou, 2009), I increased the predictive power of real options theory in applying it to various dimensions of the foreign exit decision. First, I combined real options reasoning with theory on resource management to illustrate the value in

increasing strategic flexibility through the global management of diversified options. Just as stockholders can attempt to diversify away the unsystematic risk of portfolios by investing in multiple stocks, MNEs can diversify geographically in order to reduce the exposure of their assets to environmental shocks in a given country (Campa, 1994).

As well, holding subsidiaries in a variety of industries also increases the relocation options for an MNE caught in the crossfire, as its assets would have a broader platform on which to be redistributed. These insights contribute to real options theory by providing a nuanced explanation of how resource management capabilities affect options. Moreover, I built on real options theory by introducing the notion of a “re-entry” option as a possible underlying reason for the choice of partial as opposed to whole exit. In doing so, I theoretically developed the tenets of exit mode and explored the determinants of the re-entry option in partial exit. Specifically, subsidiaries with immobile resources and local embeddedness in the host country are more likely to covet a re-entry option.

By addressing the rarely-studied topic of exit timing, this study also expands the horizon of research on foreign exit. Boddewyn (1983) developed a Dunning-like “eclectic theory of foreign divestment,” predicting that foreign exit would occur when an MNE finds that 1) it ceases to possess net competitive advantage; 2) it no longer finds it profitable to internalize its advantages; and 3) it is no longer lucrative to internalize its net competitive advantage in a particular host country. With this research I have elaborated on ways in which resource advantages may be threatened by stressors from war, location advantages may be lost through the exposure of valuable investments to war, and internalization advantages may miscarry due to human and site asset-specific

investments that inadvertently increase the vulnerability of irreplaceable and immobile resources. As such, I have essentially expanded Boddewyn's theory of foreign divestment to a novel context with a new set of boundary conditions and variables.

Existing work has focused primarily on either the distal outcomes of war in aggregate terms or the firm as an instigator of war rather than a disrupted concern that seeks business continuity. In contrast, my firm-vulnerability approach reveals important insights for research on firm strategy in extreme contexts. To this end, I present an innovative means of capturing firm exposure to perturbations in the environment – measuring their relative geographic proximity in latitude and longitude coordinates using geographic information systems data. In addition, the longitudinal analysis sheds light on the co-evolution of macro threat levels and MNE decision-making processes.

Finally, my interdisciplinary approach in bridging theoretical lenses from climate change and natural environment sustainability to examine the effect of war on firms serves to advance our understanding of individuals and collectives in extreme conditions. By connecting seemingly unrelated areas of research, my dissertation breaks new ground by confronting areas of management not explored previously, for which close theoretical antecedents may not exist (Okhuysen & Bonardi, 2011). Critically, my evidence comes from firms operating in multiple host countries, thus demonstrating empirically that the influence of wars hold across parts of a firm investing in different countries worldwide.

Managerial Implications

The arguments herein predict that the exit of subsidiaries from the host country depends on their vulnerability to the general threat posed by war, which is in turn

contingent on their exposure, resource attributes, and coping mechanisms. Based on my model, suggestions can be made to increase both subsidiaries' resilience and capability in dealing with exogenous shocks abroad. First and foremost, contrary to ingrained notions among MNE executives that tend to associate foreign exit with inefficiency and failure (McDermott, 2010), foreign exit should be anticipated whenever a firm begins the process of internationalization, and therefore not perceived necessarily in terms of an erosion in motivation or capability (Benito & Welch, 1997; McDermott, 1989).

My findings indicate that because of the inherent dangers of operating in a volatile environment, an initial decision to invest therein should be undertaken with an exit strategy designed in advance. To the extent that the processes of acquiring and divestment must be synchronized to create value (Sirmon et al., 2008; Sirmon & Hitt, 2009), the foreign exit strategy should be integrated into the MNE's initial overseas investment decisions. Because foreign exit helps to facilitate the optimal "fit" between the firm's resource configuration and the environment through the divestment of resources (Sirmon et al., 2007), the exit strategy in its multiple forms – partial and whole – is integral to MNE adaptation in dynamic global contexts.

Judgment about the magnitude of political violence based upon diffuse notions of instability are likely to be overstated due to managerial inexperience (Perlmutter, 1969), or understated as a result of hubris. Managers that overstate the level of threat must raise their required return on investment in order to rationalize staying, which can lead to exit and the forfeiture of future gains if the perceived threat exceeds a certain threshold. In this case, the possession of coping mechanisms can allow the subsidiary to exit late (or

even stay) and prevail over competitors, particularly when the market is attractive and the option to invest is not proprietary (Li & Tong, 2007). On the other hand, understating the level of risk may lead MNEs to commit resources for a longer period in the host country than is strategic, resulting in a suboptimal investment portfolio and possibly even the destruction of valuable assets. Staying rather than exiting in such circumstances poses the dilemma of whether to extricate investments from a losing situation involving sunk costs, or to persevere in adversity (Hermann, 1972; Northcraft & Wolf, 1984; Staw, 1981). As such, managers venturing to politically unstable countries should have pre-established thresholds for losses that prevent the “throwing of good money after bad”.

To increase subsidiaries’ resilience in warring host countries, I recommend that managers conduct extensive research with respect to their investment location before expanding abroad, because proximity to generalized threat is more likely to increase vulnerability and compel unexpected exits. A major concern to MNEs in general (Shaver & Flyer, 2000), the specific location of operations is of particular importance in emerging markets or warring countries in which policies vary at the provincial or even local levels (Head & Ries, 1996; Zhou et al., 2002). Similar to the effect on entry strategies found for sub-national level institutions in addition to that of national institutions (Meyer & Nguyen, 2005), my observation of differential firm exposure to macro-level threat as contingent on proximity to the war zone suggests that substantial research on investment location is warranted prior to entering politically unstable countries. In the least, the subsidiary located far from the war zone (i.e., has low

exposure) may be able to delay exit or employ the “wait-and-see” strategy, as more distant violence may not directly threaten its employees or operations.

Managers of VRIN resources that perceive their MNE as “too big to fail” are less likely to refrain from entering politically risky countries. Indeed, the underlying premise of the resource-based view that each firm is unique reinforces the belief that each subsidiary’s resources and capabilities for dealing with war are unique. Thus, even if all MNEs in the same sector incur additional costs from war, certain managers may still have hubris in believing that they have advantages vis-à-vis competitors in dealing with war (Frynas & Mellahi, 2003). If valuable human capital must be deployed abroad to politically risky countries, it may be necessary to prepare managers in advance by instituting scenario planning exercises and other training relevant to managing political violence in order to hedge hubris or inexperience in war zones.

Beyond manipulating contextual factors surrounding investments, managers also need to be selective in deploying resources to war zones, especially those that are irreplaceable. Given the high stakes in tacit know-how for maintaining a competitive advantage and its inability to be recombined if destroyed along with their human carriers, the costs of a “wait-and-see” strategy may prove to be too high relative to the salvageable value of such fairly mobile, yet irreplaceable resources. As well, managers must be cognizant of asset-specific investments, paying special attention to those that would render resources immobile and thus sunk in the event of an urgent exit. Finally, consistent with my argument that irreplaceable and immobile resources may constrain exit, it is likely beneficial for managers in warring countries to develop and safeguard

intangible resources such as proprietary oil-drilling technology or social networks for protection or mobility. Indeed, it is often these intangible resources that constitute the coping mechanisms that I reveal to be essential to survival in difficult contexts.

In line with my real options logic, MNEs can keep options for future expansion open in countries with potentially divergent political developments to achieve lower switching costs in changing environmental conditions (Belderbos & Zou, 2009). Moreover, if other foreign competitors exit as a result of war, the lower density of foreign subsidiaries in a host country leaves higher potential profits for those that stay (Miller & Eden, 2006). For example, when North American and European MNEs, including the infamous Talisman, exited from Sudan because of a civil war, government-backed MNEs from China, India, and Malaysia took advantage of the reduction in competition and attained long-term market positions in the lucrative oil industry. Not maintaining an option to wait-and-see by staying or a re-entry option by exiting partially can therefore leave an MNE without the means to take advantage of opportunities or regain lost market share when peace in the host country rebounds (Nixon et al., 2004).

Policy Implications

My study shows that in a warring country, two categories of firms exit and do so with speed and completeness: the most vulnerable firms faced with the highest threat and exposure and the most capable firms with the strategic flexibility to re-orient their global investment portfolio. This suggests that war is largely detrimental to FDI, especially when rising military spending produces a deteriorating investment environment, thereby limiting government infrastructure projects and other public goods. For instance, a

World Bank report estimates that average military spending in poor countries rises from 2.8% of national income in peace to 5% at war (Collier, et al., 2003). Thus, for warring country governing bodies, the only way to ensure steady inward investment is to minimize the threat of war to foreign investors. Moreover, because of the strong effect on exit detected for subsidiaries in war zones, my findings suggest that host governments should confine zones of violence to areas where foreign MNEs are not likely to invest, such as sparsely populated border regions. Alternatively, governments can establish restrictions against the development of foreign MNEs in conflict “hot spots”.

Limitations and Future Directions

My study has some limitations that can open doors to future research. First, although I included measures for exposure, resources, and coping mechanisms to capture firm vulnerability to war in my model, I did not directly measure such vulnerability. Also, the measures for the independent variables are not at a single level of analysis. For instance, I measured resource management capabilities at the parent level of analysis only. Future studies may develop measures for such capabilities at the subsidiary level, since subsidiaries of a given MNE with high resource management capabilities may still exhibit variance in their decisions with regard to exit. Moreover, because of the innovative nature of this study, more research is needed to verify the predictive validity and generalizability of the novel constructs.

Given the fundamentally different nature of partial exits, which can involve multiple “failures”, from single “failure” whole exits, I treated only whole exits as failure events in the survival analysis of the likelihood and timing of exit. In then

analyzing the mode of exit, I treated exit as predetermined and analyzed the type of exit – partial or whole – that is employed. In so doing, I tested for neither the likelihood of a subsidiary undertaking partial exit vs. staying nor the timing of partial exits. In addition, while I conceptualize the timing and mode of exit decisions as occurring separately, firms may, contingent on the initial choice being exit rather than stay, simultaneously decide when and how to exit. An example would be the subsidiary taking part of its labor out early in the war. The dynamics inherent in the sequencing of the exit timing and mode decisions may be furthermore idiosyncratic to the subsidiary's motives, which I could only infer from firm actions instead of directly ascertain through methods such as interviews. While I studied the likelihood, timing, and mode of exit, I also leave to future work the study of the amount of capital or expatriates exited. Had I sufficient data on instances of capital or expatriate exits, it would have been interesting to examine the extent to which different predictors determined the magnitudes of such partial exits.

While this research treated specific countries as the locations for wars, a given war zone in reality may cover several adjacent countries. For example, an MNE may be located in a country A that is not officially at war with country B but is in fact physically closer to the violence than another MNE located in country C, which *is* at war with country B. It would be interesting to analyze in future studies the role of country borders in MNE decisions on exit from “war zones”. That is, would being in “peaceful” country A actually reduce exit, given its proximity to the war zone? A related issue is that my data consisted of only Japanese MNEs. Notwithstanding its limitations, the examination of MNEs from a single home country allowed me to control for characteristics of the

home country, which may be important in determining firm decisions abroad. Since the question of whether the findings of the present study are generalizable to MNEs from other home countries remains unanswered, more studies should be conducted to examine foreign exit strategies using different home country contexts.

It should be noted that such endeavors continue to be subject to data constraints, as the Toyo Keizai (TK) dataset on Japanese MNEs is the only widely available dataset with comprehensive information at both the MNE and subsidiary levels. For example, a comparable dataset on U.S. MNE subsidiaries, such as that from the Bureau of Economic Analysis, is currently not available to the public. It would also be interesting to compare Japanese and Western companies in the same industries. Hurry, Miller, and Bowman (1992: 89) described Japanese firms as "strategic options players with a long-term view" and American firms as "short-term project-oriented players." Thus, the exit patterns observed for Japanese MNEs, whose cultural and institutional background entail an incremental and evolutionary approach, may not hold for Western companies. Accordingly, research is also needed to examine the extent to which firms can apply learning from their operating experience in war zones to other discontinuous contexts.

An improved understanding of the exit decision in extreme environmental conditions should not only contribute to a more complete theory of the internationalization of the firm, but also yield insights for improving MNE performance abroad by showing how to minimize costs levied by exogenous shocks in the MNE's operating domain. While I isolated foreign exit from other possible concurrent decisions such as switching investments to a neighboring country, future work could examine such

multi-faceted elements of MNE responses to environmental shifts in the host country. Given the chances of the exit timing and mode decisions occurring simultaneously in executing an exit, a necessary extension of this study may be to examine interactions between the irreplaceability and immobility attributes of resources.

With regard to foreign exit, when it is impossible to get out (immobility is high) and what the subsidiary has in terms of assets to lose is huge (irreplaceability is high), it may be impossible to reduce firm vulnerability. In this case, coping mechanisms may be imperative to continue operations in the host country (Ring et al., 1990). In the absence of coping mechanisms, exit may be the only means of reducing firm exposure and vulnerability to war. Because the irreversible component of an investment increases over time (Benito et al., 1999), and sunk investments generate an endowment effect that reduces the likelihood of exit (Staw, 1981), a subsidiary may require more compensation to give up its investments in the host country than it had needed incentives to invest there in the first place. Hence, it would be interesting to see whether a certain decision regarding exit timing would trigger a specific exit mode, and vice versa. For instance, do early exits mostly take place partially and whole exits invariably occur later on?

The real options view of the MNE as a portfolio of subsidiaries has the potential to offer insights for firm strategy in response to environmental shocks. In particular, the notion of outside subsidiaries as “switching” options is a powerful concept. Belderbos and Zou (2009) showed that subsidiaries are less likely to be divested in response to adverse environmental change if they represent switching option value to the MNE under conditions of uncertainty. My findings suggest that further incorporating resource

management logic would account for, in addition to MNE *motivation* to keep such “switching” options under uncertain circumstances, also the *capability* sets needed to execute the switching out of at-risk subsidiaries for “switching option” subsidiaries. As such, my dissertation identifies a new line of research on the logistics of strategic foreign exit – e.g., feasibility, immediacy, frequency (in partial exit) – that may be predicated on resource management capabilities at both the subsidiary and parent levels.

Given my initial conceptualization of the re-entry option as a possible rationale for undertaking partial exit, another avenue for future research lies in exploring the determinants of firm re-entry into previously abandoned host countries. As a related issue, scholars have shown that exercising the option of staying allows MNEs the opportunity to capitalize on the upside potential in the host country by increasing their level of resource commitment if market conditions turn favorable, but also contain downside losses if market conditions turn unpleasant (Li & Li, 2010). My inability in this study to directly measure re-entries as options that arise from exiting partially leaves to future research the study of the optimal conditions under which to keep and exercise re-entry options in the host country. Hence, future research needs to take into account these and other theoretical boundaries when applying options thinking to exit decisions, especially those for MNEs diversified in terms of both geography and industry.

A related issue for future research is the exploration of sequential exit by MNEs. The framework in this dissertation presents a partial exit option that inherently entails a process of sequential exit, where MNEs gradually decrease host country commitments. I argue that similar to sequential FDI (Chang, 1995; Delios & Henisz, 2003a, 2003b),

which Kogut (1983) notes as a process that determines the volume and direction of resources transferred across borders, sequential foreign divestment or exit essentially captures the extent to which firms exercise risk averseness in undertaking the largely irreversible act of whole exit. Given the *raison d'être* of MNEs to shift functions and output to less risky locations, it would be interesting to investigate the operational characteristics and risk orientations of MNEs that adopt a sequential manner in exiting from various contexts, especially those high in uncertainty.

Additionally, future work may identify volatile contexts in which coping mechanisms and adaptive capacity may be more or less necessary to survive extreme events. For instance, coping mechanisms may matter more if the MNE has definite incentives to stay in the host country, perhaps due to indispensable networks or exclusive licenses, which may ironically constitute coping mechanisms. High levels of coping mechanisms are also warranted for war zone subsidiaries with operations or plants in prime locations. Whether such locations are due to resource extraction facilities or local market access, these subsidiaries may be subject to the scrutiny of stakeholders that question their legitimacy (Suchman, 1995). In further determining the moderators and mediators of coping mechanisms, institutional theory approaches to characterizing firm responses in war zones and other sensitive contexts may also prove important.

There is also much to be understood about the nature of coping mechanisms, including the effectiveness of internal versus external coping mechanisms, as well as the differential utility of coping mechanisms and adaptive capacity. The experience of an MNE in other warring contexts as an example of an internal coping mechanism may not

be as effective as externally obtained political risk insurance as a form of coping mechanism if the violence in the host country is intense. On the other hand, external coping mechanisms in the form of home-host country bilateral investment treaties may not provide as much protection as would goodwill and stakeholder relationships in the local community if current home-host country relations are poor. Therefore, a comprehensive analysis of the boundary conditions of coping mechanisms and adaptive capacity may greatly contribute to our understanding of MNE survival in adverse conditions (Ring et al., 1990), with implications for exit outcomes.

As I have demonstrated, there is also great potential in interdisciplinary work for generating insights into firm strategy in confronting adversity. Research that synthesizes theories within a discipline may also prove important in this regard. For instance, underlying the prediction of strategic response to war are three drivers of firm behavior frequently employed in the competitor dynamics literature (Chen, 1996; Ferrier, Smith, & Grimm, 1999): *awareness*, *motivation*, and *capability*. Awareness is considered a prerequisite for any response, and is likely to be increased by being in the warring country. The level of awareness captures the extent to which an MNE comprehends the operational consequences of not exiting from a warring country.

To the extent that an MNE with opportunities in a warring country has other strategically salient investments in its international portfolio, the network structure of the MNE may influence its motivation to stay vs. exit as a function of the associated opportunity costs. Finally, the MNE's proprietary resources and resource management capabilities in providing bargaining power against a war economy host government may

influence not only its capability to stay, but also its strategic flexibility in shifting operations globally to minimize losses in the warring country. Future work that incorporates the awareness-motivation-capability framework with the firm-vulnerability framework presented here may be important in explaining modern-day dynamics in firms' simultaneous confrontation with both man-made challenges (i.e., competitors) and adversity that originates in the natural environment (e.g., wars and natural disasters).

How firms deal with turbulent environments is a complex phenomenon. In this study, I took an initial attempt in developing a framework of firm vulnerability in a discontinuous setting by incorporating key concepts from the literatures on natural environment sustainability and climate change. In examining how various factors combine to influence whether, when and how MNE subsidiaries exit from host countries at war, my theory considers the resource-based view in a developing and dynamic setting (Hoskisson et al., 2000; Peng, 2001), and delivers actionable prescriptions for managers (Ambrosini & Bowman, 2009; Priem & Butler, 2001a, 2001b). I hope that my work sparks future research in this area. Forging ahead on this path will enrich our understanding of the processes necessary in confronting different types of political risk, not only as a critical component in the MNE's activities abroad but also as a means of achieving successful outcomes in dealing with various environmental perturbations.

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APPENDIX A

FIGURE A1. Model of MNE Strategic Choices in Response to War

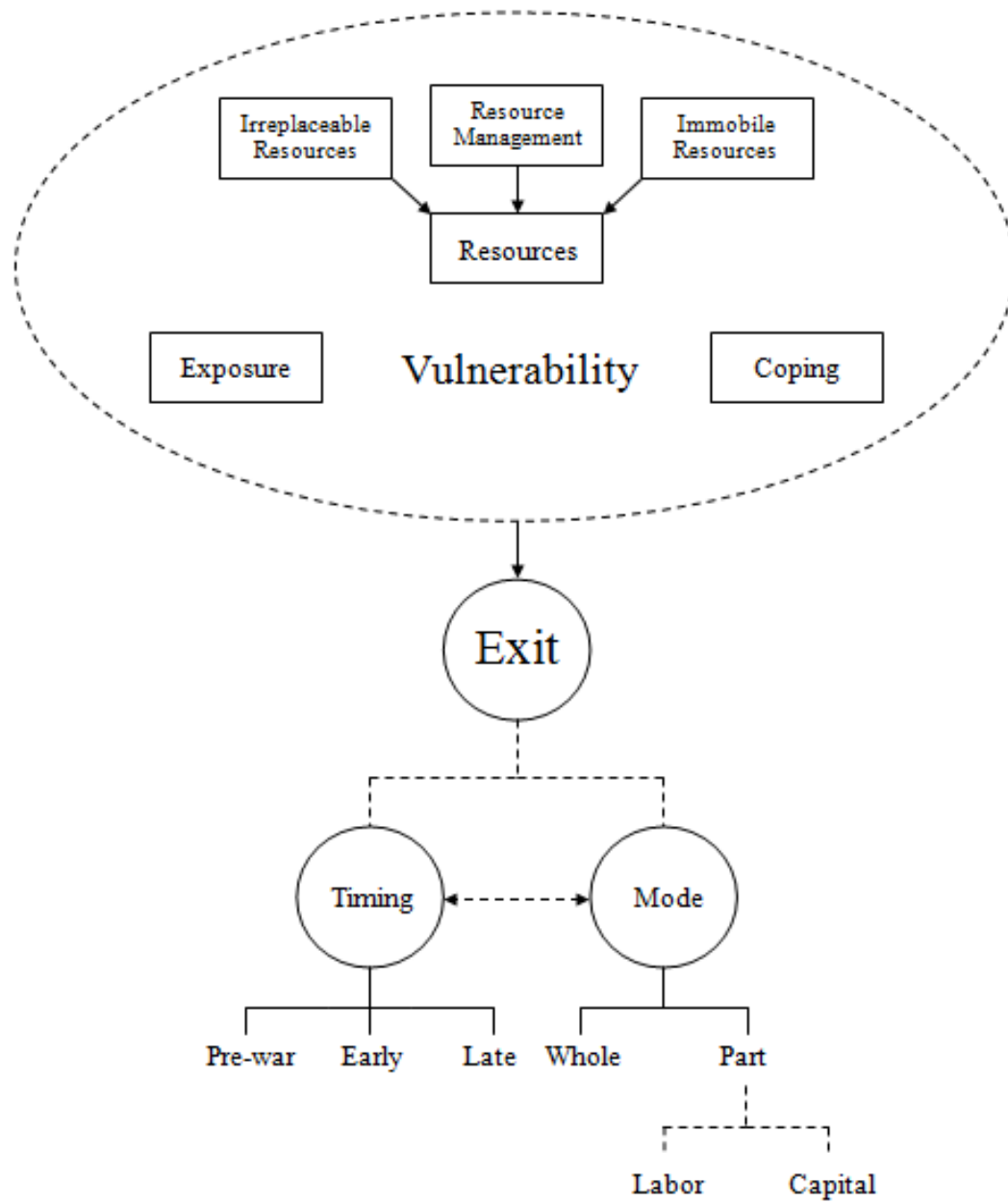


FIGURE A2. Theoretical Model of MNE Subsidiary Exit Strategy in War

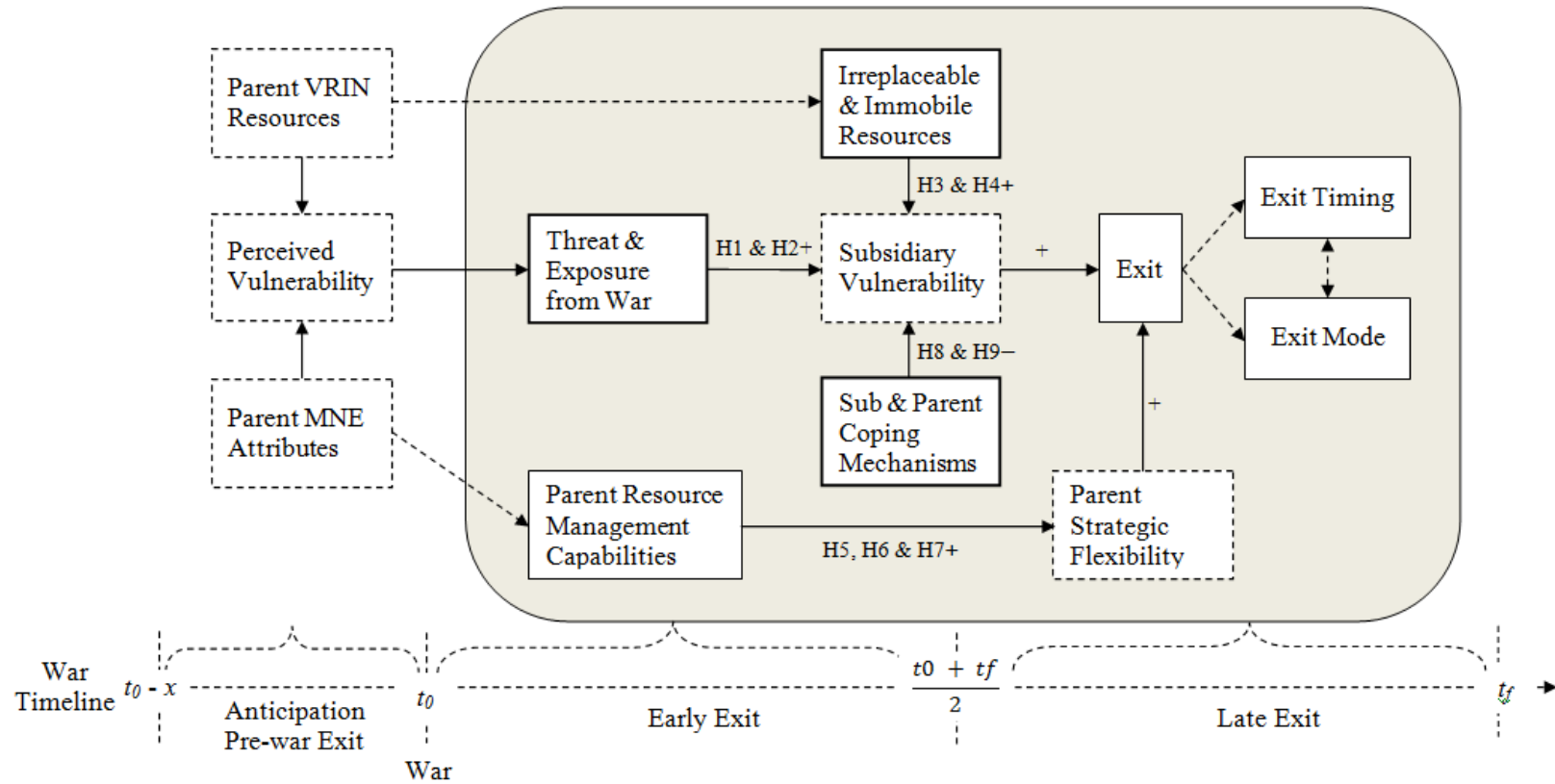


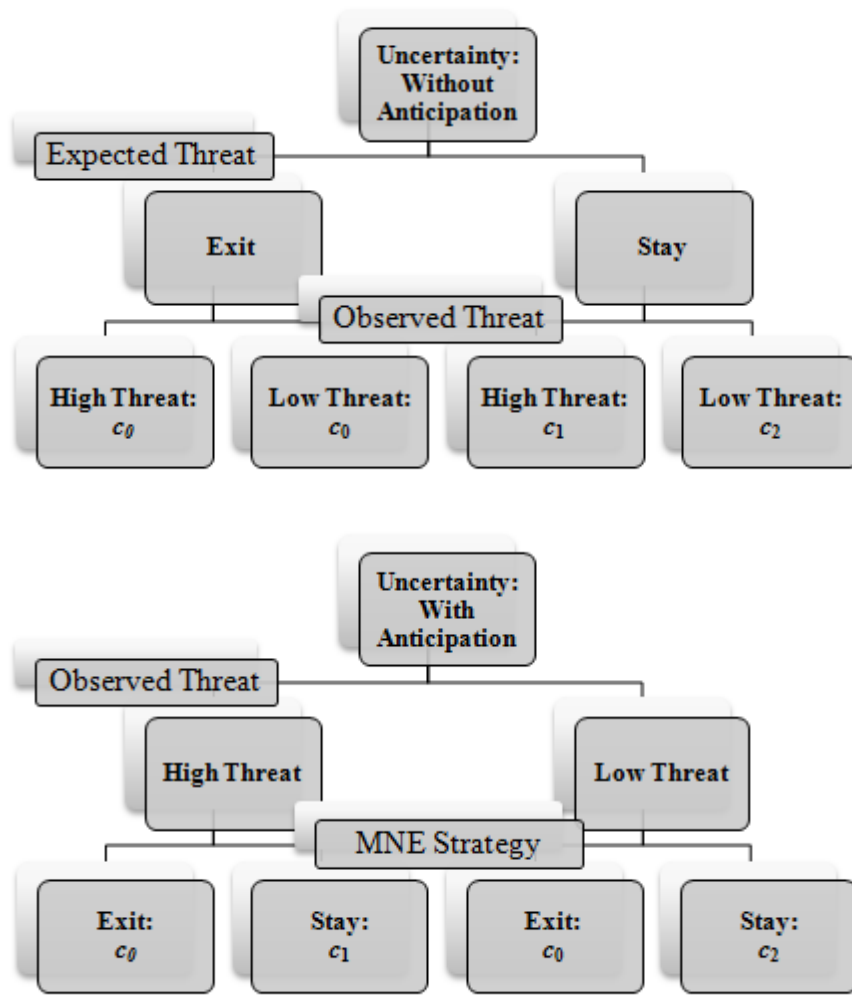
FIGURE A3. Comparison of Decision Trees without and with Anticipation

FIGURE A4. Venn Diagram of Resource Dimensions in Extreme Contexts

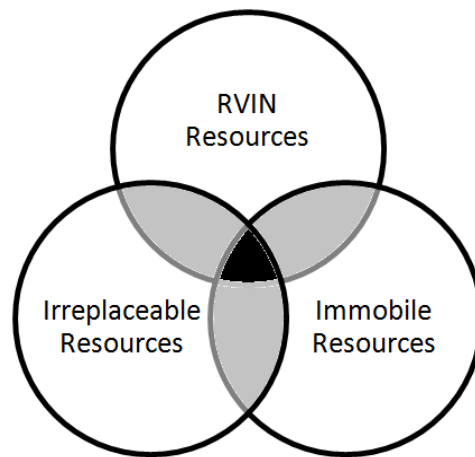


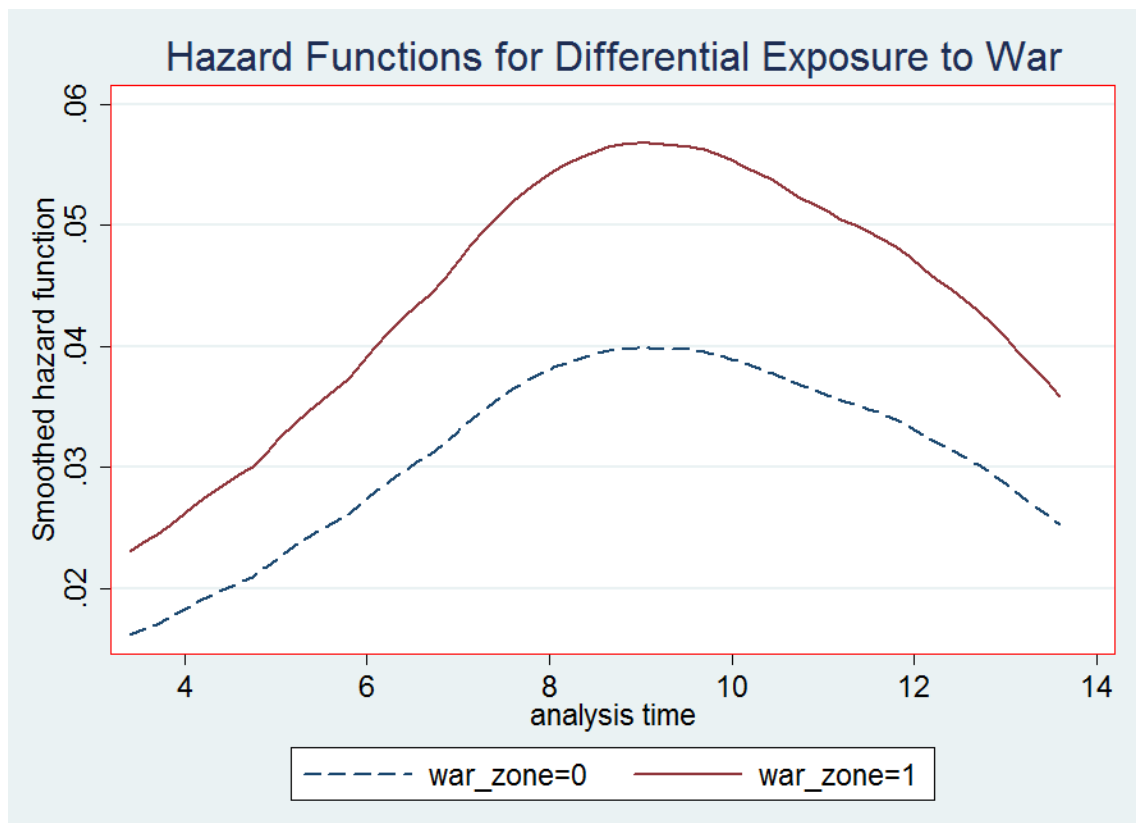
FIGURE A5. Hazard Function Graph for Exposure Variable

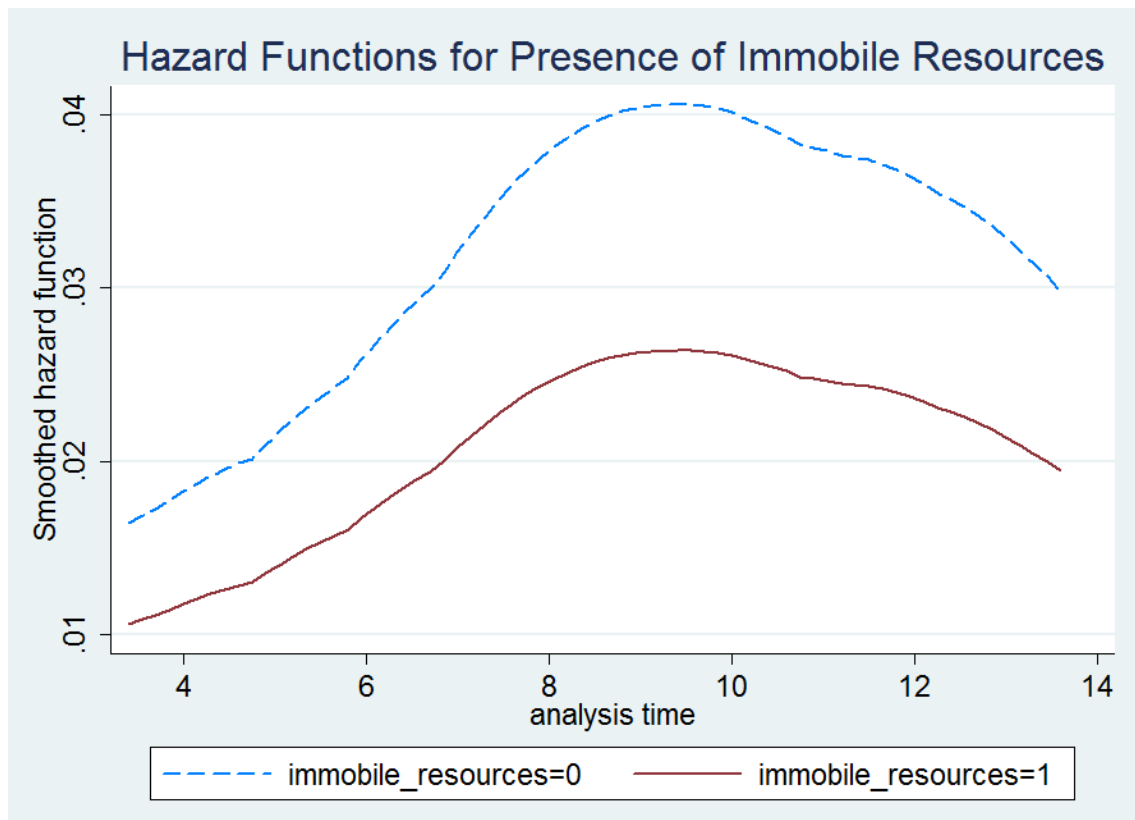
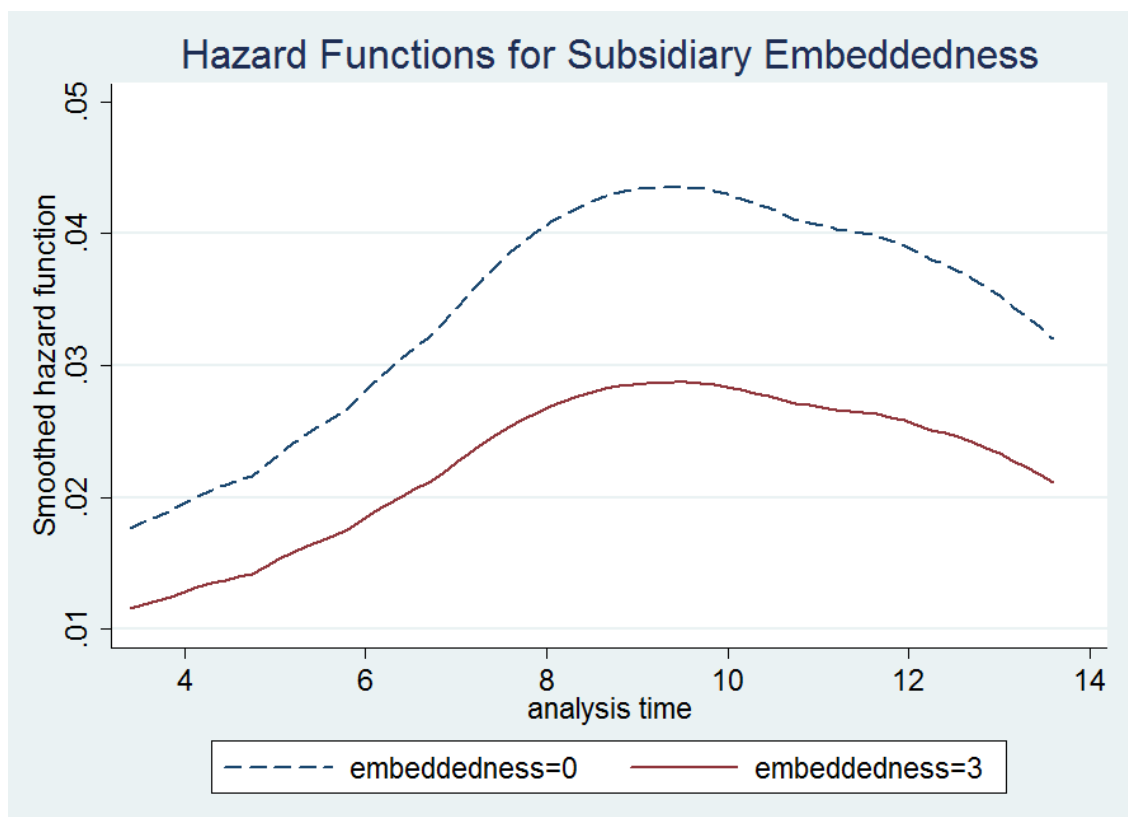
FIGURE A6. Hazard Function Graph for Immobile Resources Variable

FIGURE A7. Hazard Function Graph for Embeddedness Variable

APPENDIX B

TABLE B1. Typology of MNE Exit from a Warring Country

Irreversibility (Mode)		Delayability (Timing)	
		Low	High
	High	Early, Partial Exit	Late, Partial Exit
	Low	Early, Whole Exit	Late, Whole Exit

TABLE B2. Typology of Resources in Extreme Contexts

		Irreplaceability	
		High	Low
	High	Specialized equipment, host country licenses	Buildings, machinery and equipment, land
Immobility	Low	Human capital, relationships, MNE reputation	Trademarks, patents, databases, financial capital

TABLE B3. Possible Errors in the Strategic Exit Choice under Uncertainty

Independent Variables	State 1: High Threat	State 2: Low Threat
Strategy 1: Exit	0	Type II error: $c_0 - c_2$
Strategy 2: Stay	Type I error: $c_1 - c_0$	0

TABLE B4. Descriptions of Wars in the Study

Country	War Name	War Description	Years	War	Subs
Angola	Angolan Civil War	Power struggle between two former liberation movements: the People's Movement for the Liberation of Angola (MPLA) and the National Union for the Total Independence of Angola (UNITA)	1991-2004	1	1
Ecuador	Alto Cenepa War	Interstate war between Ecuador and Peru over border	1995-1995	1	4
Egypt	Muslim Brotherhood Rebellion	Violent guerrilla war between pro-Western Government of Egypt and Muslim Brotherhood	1993-1998	1	3
Ethiopia	Ethiopian Civil War	Ethnic war between Government of Ethiopia and Cuba and various Liberation fronts of other Eastern African nations	1987-1992	1	1
	Ogaden War	Ethnic war between Ethiopia and Somalia	1994-1995	2	
		Ethnic war by Somalia-based Islamic group against Government of Ethiopia for reunification of Ethiopian region of Ogaden and parts of Somalia	1996-1996	3	
		Eritrean–Ethiopian War	Interstate war between Ethiopia and Eritrea	1998-2000	
	OLF War	Ethnic guerrilla war between Government of Ethiopia and Oromo Liberation Front (OLF)	1999-2002		
India	Kashmir Insurgents War	Interstate war between India and Pakistan for ownership of Kashmir region in Northern India	1987, 1989-1992, 1996-2003	1, 2	21
		Civil war between Government of India and Muslim-majority states of Jammu and Kashmir for independence of Kashmir	1989-1994, 1996-2006	2	
		Civil war by Peoples' War Group (PWG), a Maoist rebel group, against Government of India to change political system of India	1990-1994, 1996-2004	2	

	Ideological, ethnic, and secessionist insurgencies in Northeast India	Civil war by National Democratic Front of Bodoland (NDFB) against Government of India to establish autonomous region in Bodoland	1993-1994, 1996-2004	2	
		Civil war by United Liberation Front of Asom (ULFA) against Government of India to establish a sovereign state of Assam	1990-1991, 1994, 1996-2006	2	
		Civil war by Peoples Liberation Army (PLA) against Government of India to liberate Manipur from India	1992-1993, 1996, 1998, 2000, 2004, 2006	2	
		Civil war by United National Liberation Front (UNLF) against Government of India to establish an independent socialist state of Manipur	1994, 1997, 2003-2006	2	
		Civil war by National Socialist Council of Nagaland (NSCN-IM) against Government of India to establish a Greater Nagaland	1992-1997, 2000	2	
		Civil war by National Socialist Council of Nagaland-Khaplang (NSCN-K) against Government of India to establish a Greater Nagaland	2005-2006	2	
		Civil war by National Liberation Front of Tripura (NLFT) against Government of India to protect culture and exclude immigrants from Tripura	1997-2004, 2006	2	
		Civil war by All Tripura Tiger Force (ATTF) against Government of India to expel Bengali speaking immigrants from mainland India and nearby Bangladesh	1992-1993, 1997-1999	2	
		Civil war by Maoist Communist Centre (MCC) against Government of India to change political system of India	1992-1993, 1998-2004	2	
		Civil war by Communist Party of India (Marxist) (CPI-M)	2005-	2	

		against Government of India to change political system of India	2006+		
		Civil war by All Bodo Students' Union (ABSU) against Government of India to establish an independent Bodoland	1989-1990	2	
Indonesia	Free Aceh Movement (GAM)	Civil war by Free Aceh Movement (GAM) against Government of Indonesia for independence of Aceh territory	1990-1991	1	65
	East Timor Revolutionary War	Ethnic war between Government of Indonesia and Front for an Independent East Timor for independence of East Timor	1992 & 1997-1998	1 & 2	
	Free Aceh Movement (GAM)	Civil war by Free Aceh Movement (GAM) against Government of Indonesia for independence of Aceh territory	1997-2005	2	
Iran	Iranian Mujahadeen Khalq Guerrilla War	Violent guerilla war by People's Mujahedin or Mujahideen-e-Khalq (MEK), a left-wing organization, against Islamic Republic of Iran to change political system of Iran	1987-1988, 1990-1993, 1997, 1999-2001	1, 2, 3, 4	4
	Iranian War on Kurds	Non-continuous ethnic war between Islamic Republic of Iran and Kurdish Democratic Party of Iran (KDPI) for an independent Kurdistan	1993 & 1996-1997	2 & 3	
	Iran–PJAK Conflict	Violent guerilla war by Free Life Party of Kurdistan (PJAK) against Islamic Republic of Iran to establish democratic confederate system in Iran	2005-2006+	5	
	Iran–Jondullah Conflict	Violent guerilla war by Jondullah (God’s Army) against Islamic Republic of Iran to establish democratic confederate system in Iran (focus on Baluchistan region)	2006+		
Israel	First Intifada	Violent Palestinian uprising against Israeli occupation in Palestinian Territories, Gaza, the West Bank and East Jerusalem	1987-1993	1	1

	Israeli-Lebanese Border War	Interstate guerilla war between Israel and Shiite Lebanese militia Hezbollah for control of southern Lebanon	1990-1999	2	
	Second Intifada	Intensified Palestinian-Israeli violence in Gaza, the West Bank and Israel against Israeli occupation	2000-2006	3	
Liberia	First Liberia War	Ethnic civil war between Government of Liberia and National Patriotic Front of Liberia (NPFL) for power	1989-1990	1	5
	Second Liberia War	Armed rebellion by Liberians United for Reconciliation and Democracy (LURD) from the North and in 2003, Movement for Democracy in Liberia (MODEL) from the South to topple NPFL	2000-2003	2	
Mexico	Zapatista Rebellion in Mexico	Ethnic violence by Zapatista Army of National Liberation or Ejército Zapatista de Liberación Nacional (EZLN) against Government of Mexico in Chiapas to claim land rights for indigenous peoples	1994	1	32
	EPR Rebellion in Mexico	Civil violence by People's Revolutionary Army or Ejército Popular Revolucionario (EPR) against Government of Mexico in Guerrero, Oaxaca and Chiapas to fight for farmers who lost their land	1995-1996		
Nigeria	Bakassi Peninsula War	Interstate war between Nigeria and Cameroon over ownership of oil-rich Bakassi Peninsula at border	1994-1996	1	5
	Second Nigeria Christian-Muslim War	Civil war by Ahlul Sunna Jamaa (Followers of the Prophet) against Government of Nigeria for establishment of an independent Islamic state in Northern Nigeria	2003-2004	2	
		Civil war by Niger Delta People's Volunteer Force (NDPVF), consisting of ethnic Ijaws from oil-rich Niger Delta, against Government of Nigeria for Ijaw self-determination and right to benefit from vast oil resources	2003-2004	2	5
Pakistan	Kashmir Insurgents War	Interstate war between Pakistan and India for ownership of Kashmir region in Northern India	1987 & 1989-2003	1, 2	2

	Operation Cleanup	Civil war between Government of Pakistan and ethnically based Mohajir Qaumi Movement (MQM), an Urdu-speaking Mohajir tribal group, for ethnic status, rights and political autonomy	1990 & 1995-1996	2	
	Fifth Balochistan Conflict	Civil war by Baluchistan Liberation Army (BLA) against Government of Pakistan to oppose centrally-driven modernization and natural resource exploration, with attacks on infrastructure	2004-2006+	2	
		Civil war by Baluch Ittehad (Unity) against Government of Pakistan to oppose centrally-driven modernization and natural resource exploration, with attacks on infrastructure	2005-2006	2	
Panama	Operation Just Cause	Interstate war between Panama and the U.S. for control of Panama Canal	1989	1	11
Papua New Guinea	Bougainville Secession War	Ethnic war by Bougainville Revolutionary Army (BRA) against Government of Papua New Guinea to oppose environmentally-damaging copper mining	1989-1990	1	1
	Bougainville Civil War	Civil war by Bougainville Revolutionary Army (BRA) against Government of Papua New Guinea for independence of Bougainville island	1992-1996	2	
Peru	Alto Cenepa War	Interstate war between Peru and Ecuador over disputed area at Cordillera del Condor	1995	1	2
Philippines	Philippine-Moro War	Guerilla war by Islamist Moro Nationalists: Mindanao Independence Movement (MIM), Moro National Liberation Front (MNLF), Moro Islamic Liberation Front (MILF), and Abu Sayyaf Group (ASG) against Government of Philippines for independence	1993-1997, 1999-2006	1 & 2	102
	Philippines Communist Insurgency	Communist insurgency by Communist Party of the Philippines (CPP) against Government of Philippines	1999-2006	2	

Russia	Nagorno-Karabakh War	Civil war evolved interstate war between Azerbaijan and Armenia (both Soviet Union states then) for independence of Armenian-populated enclave of Nagorno-Karabakh	1990-1991	1	3
	Russian Constitutional Crisis	Violent clashes from Yeltsin's parliamentary forces' struggle for new constitution and reforms against Russian Federation	1993	2	
	First Chechnya War	Ethnic war between Russian Federation and Chechen Republic of Ichkeria for secession and Islamic radicalization	1993-1996	2	
	Second Chechnya War	Civil war by Wahhabi Movement of the Buinaksk District against Russian Federation in Islamic radicalization, with links to Chechnya	1994-2006+	2	
Spain	Basque War for Independence	Civil war by Basque separatist organization Basque Fatherland and Freedom aka Euskadi Ta Askatasuna (ETA) against Government of Spain for independence of Basque area in Northern Spain and Southwestern France	1991-1992	1	17
Sri Lanka	Second Sri Lanka-JVP War	Civil war by Janatha Vimukthi Peramuna (JVP), a Marxist Sinhalese political party, against Government of Sri Lanka to establish a communist state	1989-1990	1	9
Sri Lanka	Sri Lankan Civil War	Civil and ethnic war between a pro-Sinhalese Government of Sri Lanka and Liberation Tigers of Tamil Eelam (LTTE), a separatist militant organization, over ethnic Tamil grievances and secession	2003-2006	2	
Thailand	Thailand-Laos Border War	Interstate war between Thailand and Laos for disputed area at border considered by Laos as part of the Laotian Botên District in Xaignabouri and by Thailand as part of the Chat Trakan District in Phitsanulok Province	1987-1988	1	324
Thailand	South Thailand	Ethnic war by Muslim Patani insurgents against Government of Thailand for secession in Southern	2003-2006+	2	

	Insurgency	Thailand			
Turkey	Turkish Marxist-Leninist Style Armed Violence	Civil war by Revolutionary People's Liberation Party-Front (Devrimci Sol), a leftist organization, against Government of Turkey to establish communist state	1987-1992	1	4
		Civil war by Maoist Communist Party aka Maoist Komunist Partisi (MKP) against Government of Turkey to establish communist state	1993-2005		
Uganda	Lord's Resistance Army Insurgency	Civil war between Government of Uganda and Lord's Resistance Army (LRA), a sectarian religious and military group from northern Uganda, over military vs. civilian rule	1994-2006	1	1
	Alliance of Democratic Forces Insurgency	Ethnic war between Government of Uganda and Alliance of Democratic Forces (ADF) over military vs. civilian rule	1996-2002		
	West Nile Bank Front Insurgency	Ethnic war between Government of Uganda and West Nile Bank Front (WNBF) over military vs. civilian rule	1996		
	Uganda National Rescue Front II Insurgency	Ethnic war between Government of Uganda and Uganda National Rescue Front II (UNRF II) in struggle over military vs. civilian rule	1997		
Venezuela	Venezuela Military Coup	Military coup d'état by Hugo Chavez against Government of Venezuela	1992	1	8

TABLE B5. Independent Variable Descriptions and Operationalizations^a

Variable Category	Level	Variable Type	Independent Variable Name	Hyp.	Effect on Exit	Operationalization
Exposure	Macro	Threat	Battle-Related Deaths	1	+	Cumulative battle-related deaths over war years (in 1000's) up to focal year
	Sub	Exposure	Subsidiary Location vis- à-vis War Zone	2	+	1 if subsidiary is in war zone, 0 otherwise
Resources	Sub	Irreplaceable Resource ^b	Managerial Experience	3	+	Japanese expatriate percentage x subsidiary age since founding in host country
		Immobile Resource ^b	Production Facilities	4	–	Manufacturing dummy (1 if subsidiary is in production-intensive industry) x Vertical integration dummy (1 if export either to 3 rd country or back home)
	Parent	Structuring Resource Mgmt Capabilities	Parent Worldwide (ww) subsidiary foundings and exits	5	+	Parent's worldwide new subsidiary establishments + worldwide new subsidiary exits
		Bundling Resource Mgmt Capabilities	Ratio of parent's pioneering subs to stab. + pio. subs ww	6	+	(Parent's worldwide subsidiaries in industry unrelated to its primary industry)/ (Subsidiaries in all industries worldwide)
		Deploying Resource Mgmt Capabilities	Ratio of parent's host country to ww subsidiaries	7	+	Parent's number of subsidiaries in host country/Parent's number of subsidiaries worldwide
	Sub	Coping Mechanism ^b	Local Embeddedness	8	–	1 if invited by local government, or has production or distribution network, 2 if any 2 of above, 3 if all conditions met, or else 0
Coping Mechanisms	Parent	Coping Mechanism	War Zone Experience	9	–	Sum in years of parent's worldwide subsidiaries' current and prior two years' experience in war zones

^aAll variables are at time *t* except where noted by “*b*”.

TABLE B6. Control Variable Descriptions and Operationalizations^a

Level	Variable	Purpose- Controls for:	Variable Attributes	Effect on Exit	Operationalization
Sub	Ownership Type	Parent as sole decision-maker on exit and resource commitment	Dummy	–	1 if subsidiary was wholly owned by parent, 0 otherwise
	Firm Age	Liability of newness or local embeddedness as alternative explanations for exit vs. stay	Centered	–	Number of years subsidiary had operated in host country since founding
	Firm Size ^b	Subsidiary's strategic salience for parent and feasibility of exit	Centered	–	Annual employment in subsidiary
	Performance ^b	Internal financial reasons as alternative explanations for exit	Categorical (3)	+	1 if subsidiary is making a gain, 2 if it is breaking-even, 3 if it is making a loss
	Peer Exits	Mimetic isomorphism as an alternative explanation of exit	Centered	+	# of subs in same industry and country as focal subsidiary that exited in given year
Parent	Firm Size ^b	Parent's slack resources and visibility in host country	Centered	–	Annual sales of parent MNE
Macro	Per Capita GDP	Host country market size	Centered	–	Gross domestic product (GDP)/ population in host country
	GDP Growth	Host country market potential	Centered	–	Year-over-year change in GDP/population in host country
	FDI % of GDP	Host country's relative attractiveness to other markets	Centered	–	Foreign direct investment flows as percentage of GDP in host country
	Composite Risk Score	Political, financial, and economic risk in host country	Centered	–	12 items: On 100 point scale, low score is very high risk; high score is very low risk
	Bilateral Investment Treaty	Home-host country relations and presence of external "coping mechanism"	Dummy	–	1 if Japan and host country had BIT in given year, 0 otherwise

^a All variables are at time *t* except where noted by *b*.

TABLE B7. Summary Statistics and Correlations

#	Variables	Mean	Std dev.	Min.	Max.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	
1.	Ownership type	0.22	0.41	0.00	1.00	1.00																				
2.	Subsidiary age	15.71	8.82	1.00	50.00	-0.16	1.00																			
3.	Subsidiary size ^b	426.18	974.59	0.00	16660.00	0.10	0.13	1.00																		
4.	Subsidiary performance ^b	1.43	0.70	1.00	3.00	0.03	-0.11	-0.08	1.00																	
5.	Peer exits	1.18	1.78	0.00	8.00	0.01	-0.03	0.01	0.03	1.00																
6.	Parent size ^b	310.39	766.46	2.94	12281.70	0.01	0.09	0.01	0.00	-0.03	1.00															
7.	Market size	208.12	230.59	12.54	2410.66	0.14	-0.07	0.03	0.03	0.04	-0.04	1.00														
8.	Market potential ^a	3.38	4.19	-50.05	17.85	-0.05	0.00	0.00	-0.03	0.01	-0.02	0.04	1.00													
9.	Market attractiveness ^a	2.49	4.59	-2.76	90.74	0.09	-0.05	-0.02	0.08	0.24	-0.02	0.08	-0.40	1.00												
10.	Host country risk	67.14	7.96	21.00	79.00	0.11	-0.08	0.00	0.00	0.21	-0.04	0.31	0.54	-0.06	1.00											
11.	BIT	0.02	0.15	0.00	1.00	-0.02	-0.02	-0.03	-0.06	-0.09	-0.03	0.02	0.01	-0.05	-0.14	1.00										
12.	Threat	2.56	6.14	0.03	99.13	-0.07	0.06	0.01	-0.03	-0.14	-0.03	-0.16	0.00	-0.10	-0.12	0.13	1.00									
13.	Exposure	0.20	0.40	0.00	1.00	0.24	-0.11	-0.05	0.00	-0.04	0.00	-0.11	-0.18	0.02	-0.09	0.13	0.14	1.00								
14.	Irreplaceable resources ^b	70.46	204.32	0.00	2900.00	0.10	0.18	-0.12	0.04	-0.01	0.09	0.02	-0.06	0.11	-0.07	-0.04	-0.09	0.03	1.00							
15.	Immobile resources ^b	0.25	0.44	0.00	1.00	0.04	-0.04	0.18	-0.02	0.04	-0.05	0.07	0.04	-0.03	0.04	0.03	-0.05	-0.01	-0.13	1.00						
16.	Structuring capabilities	4.05	10.63	0.00	122.00	0.02	0.12	0.04	-0.01	-0.06	0.35	-0.06	-0.04	-0.03	-0.07	0.07	-0.07	0.00	0.08	-0.06	1.00					
17.	Bundling capabilities ^a	9.68	30.06	0.04	204.00	0.04	0.05	-0.02	0.01	-0.06	0.42	-0.06	-0.08	0.00	-0.11	0.04	-0.06	-0.01	0.11	-0.09	0.68	1.00				
18.	Deploying capabilities ^a	0.17	0.21	0.00	1.00	-0.07	-0.11	-0.06	0.03	0.08	-0.11	0.04	0.05	0.09	0.07	-0.01	-0.03	-0.06	0.05	0.12	-0.22	-0.17	1.00			
19.	Embeddedness ^b	1.36	1.01	0.00	3.00	-0.12	0.27	0.15	-0.04	-0.05	-0.09	0.00	0.05	-0.12	-0.13	0.04	0.07	-0.14	-0.14	0.26	0.04	-0.01	-0.05	1.00		
20.	Parent coping mechanisms	7.53	8.44	1.00	75.00	0.06	0.22	0.10	-0.04	-0.04	0.29	-0.04	-0.01	0.00	-0.03	0.09	0.01	-0.01	0.03	-0.05	0.65	0.56	-0.24	0.06	1.00	
All statistics are based on the format used in regressions; correlations greater than 0.01 are significant at p<0.05																										
^a Percentage																										
^b Lagged																										

TABLE B8. List of Host Countries Represented in the Study

Country	% of Obs.	% of Exits	Exits/Obs.
Angola	0.3	0	0.0
Ecuador	0.1	0	0.0
Egypt	0.4	1.2	3.0
Ethiopia	0.4	1.2	3.0
India	8.1	9.6	1.2
Indonesia	17.1	20.5	1.2
Iran	1.2	1.2	1.0
Israel	0.4	1.2	3.0
Liberia	0.4	0	0.0
Mexico	2.6	2.4	0.9
Nigeria	0.6	1.2	2.0
Pakistan	0.6	1.2	2.0
Panama	0.3	0	0.0
Papua New Guinea	0.1	1.2	12.0
Peru	0.1	0	0.0
Philippines	26.2	28.9	1.1
Russia	0.6	2.4	4.0
Spain	0.9	1.2	1.3
Sri Lanka	0.8	1.2	1.5
Thailand	37.4	20.5	0.5
Turkey	1	3.6	3.6
Uganda	0.2	1.2	6.0
Venezuela	0.2	0	0.0
Total	100.0	100.0	100.0

TABLE B9. Most Represented Countries in the Full TK Dataset^a

Rank	Country	Frequency	Percent
1	USA	68,265	21.03
2	China	34,350	10.58
3	<i>Thailand</i>	<i>21,075</i>	<i>6.49</i>
4	Hong Kong	19,655	6.05
5	Singapore	18,815	5.80
6	UK	16,133	4.97
7	Taiwan	16,093	4.96
8	Malaysia	13,684	4.22
9	Germany	11,455	3.53
	Total	219,525	67.63

^a10,000 obs. selected as cutoff for inclusion

TABLE B10. List of Industries Represented in the Study

Industry	% of Obs.	% of Exits	Exits/Obs.
Agriculture/Forestry/Fishery	0.5	1.2	2.4
Mining (Metal/Coax/Crude Oil & Gas)	1.1	2.4	2.2
Construction (Residential Building/General)	15.1	13.3	0.9
Food Products	1.9	2.4	1.3
Textile/Apparel	2.8	4.8	1.7
Lumber & Furniture	1.0	1.2	1.2
Pulp & Paper Products	0.2	0.0	0.0
Publishing & Printing	0.8	0.0	0.0
Chemical/Pharmaceutical Products	11.1	9.6	0.9
Oil/Coal Products (Synthetic Fiber)	0.3	1.2	4.0
Rubber/Leather Products	2.7	1.2	0.4
Glass, Ceramics & Stone Products	1.9	1.2	0.6
Iron And Steel	0.1	1.2	12.0
Non-Ferrous Metal	0.8	1.2	1.5
Metal Products	2.6	1.2	0.5
Industrial Machinery	6.9	4.8	0.7
Electronic Products	9.3	3.6	0.4
Transportation Equipment/Shipbuilding	3.4	3.6	1.1
Automobile/Car Parts	11.3	13.3	1.2
Precision	1.3	2.4	1.8
Other Manufacturing	1.8	2.4	1.3
Wholesale (Agricultural Products/Food)	0.1	0.0	0.0
Wholesale (Textile/Apparel)	0.4	0.0	0.0
Wholesale (Lumber/Furniture/Paper & Pulp)	0.4	0.0	0.0
Wholesale (Chemical/Pharmaceuticals)	2.3	1.2	0.5
Wholesale (Iron/Steel Products)	0.2	0.0	0.0
Wholesale (Non-Ferrous Metal)	0.2	0.0	0.0
Wholesale (Industrial Machinery)	4.5	1.2	0.3
Wholesale (Electronic Products)	2.2	4.8	2.2
Wholesale (Transportation Equipment/Ship)	0.1	0.0	0.0
Wholesale (Automobile/Car Parts)	1.1	3.6	3.3
Wholesale (Precision)	0.1	0.0	0.0
Other Wholesale	3.0	2.4	0.8
Retail	0.4	0.0	0.0
Restaurants	0.1	0.0	0.0
Financing	0.6	0.0	0.0

Real Estate	0.6	3.6	6.0
Travel Agent	0.1	0.0	0.0
Sea Transport	0.8	1.2	1.5
Warehouse/Logistics	0.5	1.2	2.4
Other Transport Services	2.4	1.2	0.5
Advertisement	0.6	1.2	2.0
Hotel	0.4	1.2	3.0
Information Services	0.2	0.0	0.0
Rental/Leasing	0.4	1.2	3.0
Consulting/Market Research	0.5	1.2	2.4
R&D	0.4	0.0	0.0
Other Services	0.4	0.0	0.0
Regional HQ	0.3	2.4	8.0
Total	100.0	100.0	100.0

TABLE B11. Coefficient Estimates from Extended Cox Proportional Hazard Models

Control Variables		Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Ownership type		-0.310*	(0.144)	-0.761***	(0.228)	-0.327	(0.169)	-0.325*	(0.138)	-0.374**	(0.127)	-0.921***	(0.213)
Subsidiary age		0.007	(0.014)	0.015	(0.019)	0.007	(0.016)	0.005	(0.011)	0.008	(0.013)	-0.005	(0.024)
Subsidiary size		-0.160	(0.153)	-0.176	(0.181)	-0.069	(0.101)	-0.106	(0.156)	-0.156	(0.150)	-0.119	(0.198)
Financial break-even		0.492	(0.276)	0.126	(0.261)	0.474	(0.261)	0.489	(0.272)	0.529*	(0.218)	-0.040	(0.307)
Financial loss		0.708***	(0.131)	0.767***	(0.228)	0.693***	(0.142)	0.849***	(0.119)	0.734***	(0.130)	0.950***	(0.199)
Peer exits		0.260*	(0.101)	0.324***	(0.089)	0.268**	(0.094)	0.237*	(0.096)	0.241**	(0.091)	0.292***	(0.077)
Parent size		0.123***	(0.011)	0.161***	(0.015)	0.120***	(0.012)	-0.070*	(0.022)	0.026	(0.014)	-0.088***	(0.023)
Per capita GDP ('000000)		0.188	(0.299)	0.956***	(0.181)	0.358	(0.298)	0.218	(0.299)	0.241	(0.334)	0.927***	(0.174)
GDP growth		0.019	(0.023)	0.010	(0.055)	0.019	(0.024)	0.011	(0.022)	0.014	(0.024)	0.007	(0.054)
FDI as percentage of GDP		0.012	(0.015)	-0.208*	(0.086)	0.011	(0.015)	0.009	(0.016)	0.006	(0.017)	-0.173	(0.093)
Host country risk		-0.004	(0.012)	0.015	(0.020)	-0.004	(0.011)	-0.002	(0.009)	-0.007	(0.010)	0.007	(0.016)
Bilateral investment treaty		0.948**	(0.315)	0.240	(0.434)	0.975**	(0.323)	0.946***	(0.287)	1.037***	(0.209)	0.148	(0.476)
Independent Variables													
Threat	H1			0.025**	(0.008)							0.024***	(0.006)
Exposure	H2			0.364**	(0.133)							0.531***	(0.150)
Irreplaceable resources	H3					0.090	(0.074)					0.092***	(0.023)
Immobile resources	H4					-0.481***	(0.072)					-0.467*	(0.199)
Structuring capabilities	H5							0.046***	(0.008)			0.031**	(0.011)
Time-varying component								-0.003***	(0.000)			-0.002*	(0.001)
Bundling capabilities	H6							0.000	(0.003)			0.004**	(0.002)
Time-varying component								0.001***	0.000				
Deploying capabilities	H7							-0.109*	(0.046)			0.204**	(0.080)
Time-varying component								-0.022***	(0.006)			-0.037**	(0.012)
Low embeddedness	H8									-0.454*	(0.212)	-0.484*	(0.222)
Medium embeddedness										-0.186	(0.325)	0.207	(0.335)
High embeddedness										-0.680***	(0.203)	-0.412**	(0.157)
Parent coping mechanisms	H9									0.032***	(0.004)	0.048**	(0.017)
N		3802		3316		3785		3802		3802		3306	
Log pseudolikelihood		-682.272		-431.402		-665.952		-665.282		-671.783		-407.326	
Wald Chi Square/df		2478.08/12***		2209.90/14***		2341.88/14***		75882.46/18***		7392.59/16***		3744401.50/22***	
Δ Wald Chi Sq (from Model 1)				-268.18***		-136.2***		73404.38***		4914.51***		3741923.42***	
Akaike information criterion		1388.544		890.803		1359.904		1364.378		1375.567		860.696	
Bayesian information criterion		1463.464		976.295		1447.247		1458.028		1475.460		994.972	

Notes: Unstandardized coefficients are reported, with robust standard errors clustered by country in brackets. * p<0.05 ** p<0.01 *** p<0.001 (two-tailed)

TABLE B12. Hazard Ratios from Extended Cox Proportional Hazard Models

Control Variables		Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Ownership type		0.734*	(0.106)	0.467***	(0.107)	0.721	(0.122)	0.722*	(0.100)	0.688**	(0.087)	0.398***	(0.085)
Subsidiary age		1.007	(0.015)	1.015	(0.020)	1.007	(0.016)	1.005	(0.011)	1.008	(0.013)	0.995	(0.024)
Subsidiary size		0.852	(0.131)	0.838	(0.151)	0.933	(0.094)	0.900	(0.141)	0.856	(0.129)	0.887	(0.176)
Financial break-even		1.636	(0.451)	1.135	(0.296)	1.606	(0.419)	1.631	(0.444)	1.697*	(0.369)	0.961	(0.295)
Financial loss		2.029***	(0.265)	2.153***	(0.490)	2.000***	(0.285)	2.338***	(0.277)	2.083***	(0.270)	2.585***	(0.516)
Peer exits		1.297*	(0.132)	1.383***	(0.123)	1.308**	(0.123)	1.267*	(0.122)	1.273**	(0.116)	1.339***	(0.103)
Parent size		1.131***	(0.012)	1.175***	(0.018)	1.128***	(0.013)	0.933**	(0.021)	1.027	(0.014)	0.916***	(0.021)
Per capita GDP ('000000)		1.207	(0.361)	2.601***	(0.472)	1.431	(0.426)	1.243	(0.371)	1.273	(0.425)	2.527***	(0.439)
GDP growth		1.020	(0.024)	1.010	(0.056)	1.019	(0.024)	1.011	(0.023)	1.014	(0.024)	1.007	(0.055)
FDI as percentage of GDP		1.012	(0.015)	0.813*	(0.070)	1.011	(0.015)	1.010	(0.016)	1.006	(0.017)	0.841	(0.079)
Host country risk		0.996	(0.012)	1.015	(0.020)	0.996	(0.011)	0.998	(0.009)	0.993	(0.010)	1.007	(0.017)
Bilateral investment treaty		2.581**	(0.813)	1.271	(0.552)	2.651**	(0.856)	2.577***	(0.741)	2.820***	(0.591)	1.160	(0.552)
Independent Variables													
Threat	H1			1.025**	(0.008)							1.024***	(0.006)
Exposure	H2			1.440**	(0.192)							1.700***	(0.256)
Irreplaceable resources	H3					1.094	(0.081)					1.097***	(0.025)
Immobile resources	H4					0.618***	(0.045)					0.627*	(0.125)
Structuring capabilities	H5							1.047***	(0.008)			1.031*	(0.011)
Time-varying component								0.997***	(0.000)			0.998*	(0.001)
Bundling capabilities	H6							1.000	(0.003)			1.004**	(0.002)
Time-varying component								1.001***	(0.000)				
Deploying capabilities	H7							1.115*	(0.051)			1.226**	(0.098)
Time-varying component								0.978***	(0.006)			0.964**	(0.011)
Low embeddedness	H8									0.635*	(0.134)	0.616*	(0.137)
Medium embeddedness										0.830	(0.269)	1.230	(0.412)
High embeddedness										0.507***	(0.103)	0.662**	(0.104)
Parent coping mechanisms	H9									1.032***	(0.005)	1.049**	(0.017)
N		3802		3316		3785		3802		3802		3306	
Log pseudolikelihood		-682.272		-431.402		-665.952		-665.282		-671.783		-407.326	
Wald Chi Sq		2478.08***		2209.90***		2341.88***		75882.46***		7392.59***		3744401.50***	
Δ Wald Chi Sq (from Model 1)				-268.18***		-136.2***		73404.38***		4914.51***		3741923.42***	
Akaike information criterion		1388.544		890.803		1359.904		1364.378		1375.567		860.696	
Bayesian information criterion		1463.464		976.295		1447.247		1458.028		1475.460		994.972	

Notes: Hazard ratios are reported, with robust standard errors clustered by country in brackets. * p<0.05 ** p<0.01 *** p<0.001 (two-tailed)

TABLE B13. Coefficient Estimates from Logit Models with Partial Exit Baseline

Control Variables		Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Ownership type		-0.353*	(0.156)	-1.246***	(0.231)	-0.374*	(0.183)	-0.377†	(0.205)	-0.338†	(0.198)	-1.618***	(0.244)
Subsidiary age		-0.007	(0.014)	0.003	(0.024)	-0.006	(0.016)	-0.017	(0.012)	-0.013	(0.017)	-0.020	(0.027)
Subsidiary size		-0.198	(0.182)	-0.142	(0.176)	-0.063	(0.177)	-0.171	(0.191)	-0.232	(0.171)	-0.034	(0.233)
Financial break-even		0.617**	(0.221)	0.063	(0.104)	0.575**	(0.201)	0.544**	(0.187)	0.592***	(0.153)	-0.475	(0.625)
Financial loss		0.916***	(0.130)	1.037***	(0.228)	0.843***	(0.118)	0.877***	(0.130)	0.979***	(0.214)	0.971*	(0.464)
Peer exits		0.164†	(0.089)	0.190†	(0.113)	0.159*	(0.073)	0.153	(0.101)	0.137	(0.089)	0.130	(0.095)
Parent size		0.154***	(0.021)	0.183***	(0.021)	0.146***	(0.020)	-0.090†	(0.051)	-0.033	(0.044)	-0.220*	(0.092)
Per capita GDP (000000)		0.972**	(0.372)	1.609***	(0.383)	1.198**	(0.438)	0.972**	(0.367)	1.050**	(0.337)	1.664***	(0.333)
GDP growth		0.066	(0.058)	0.159*	(0.072)	0.067	(0.059)	0.074	(0.060)	0.068	(0.054)	0.145*	(0.066)
FDI as percentage of GDP		0.068*	(0.031)	-0.192	(0.197)	0.068*	(0.033)	0.066†	(0.036)	0.067*	(0.031)	-0.146	(0.167)
Host country risk		-0.047***	(0.014)	-0.035	(0.047)	-0.052***	(0.016)	-0.047*	(0.019)	-0.041*	(0.017)	-0.033	(0.047)
Bilateral investment treaty		1.659***	(0.251)	0.955*	(0.463)	1.763***	(0.245)	1.638***	(0.247)	1.642***	(0.315)	1.407†	(0.844)
Independent Variables													
Threat	H1			0.049***	(0.010)							0.061***	(0.011)
Exposure	H2			1.132***	(0.208)							1.142***	(0.263)
Irreplaceable resources	H3					0.056	(0.096)					0.177	(0.212)
Immobile resources	H4					-0.668***	(0.192)					-1.014***	(0.285)
Structuring capabilities	H5							0.055***	(0.015)			0.055	(0.038)
Bundling capabilities	H6							0.163	(0.265)			0.668**	(0.224)
Deploying capabilities	H7							-0.051	(0.058)			-0.022	(0.087)
Low embeddedness	H8									-0.485*	(0.212)	-0.685***	(0.206)
Medium embeddedness										-0.451	(0.453)	-0.177	(0.475)
High embeddedness										-1.031***	(0.265)	-0.806**	(0.265)
Parent coping mechanisms	H9									0.064***	(0.012)	0.062**	(0.023)
Constant		-3.869***	(0.216)	-3.359***	(0.362)	-3.673***	(0.230)	-4.168***	(0.271)	-4.580***	(0.435)	-4.514***	(0.494)
N		597		499		595		597		597		499	
Log pseudolikelihood		-255.547		-177.651		-250.033		-244.66		-241.537		-154.454	
Wald Chi Sq/df		869.12/12***		11343.52/14***		2503.6/14***		1714.13/15***		1147.55/16***		290000/16***	
Δ Wald Chi Sq (from Model 1)				10474.4***		1634.48***		845.01***		278.43***		289130.88***	
Akaike information criterion		547.094		387.303		536.065		525.320		519.075		340.908	
Bayesian information criterion		626.149		454.704		615.059		604.375		598.130		408.310	
Notes: Unstandardized coefficients are reported, with robust standard errors clustered by country in brackets. †p<0.10; *p<0.05; **p<0.01; ***p<0.001 (two-tailed)													
Year dummies are included in all specifications but not reported due to space constraints.													

TABLE B14. Odds Ratios from Logit Models with Partial Exit Baseline

Control Variables		Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Ownership type		0.702*	(0.110)	0.288***	(0.066)	0.688*	(0.126)	0.686†	(0.140)	0.713†	(0.141)	0.198***	(0.048)
Subsidiary age		0.993	(0.014)	1.003	(0.024)	0.994	(0.016)	0.984	(0.012)	0.987	(0.017)	0.980	(0.026)
Subsidiary size		0.821	(0.149)	0.867	(0.153)	0.939	(0.166)	0.843	(0.161)	0.793	(0.135)	0.967	(0.225)
Financial break-even		1.853**	(0.409)	1.065	(0.111)	1.777**	(0.358)	1.723**	(0.321)	1.808***	(0.277)	0.622	(0.389)
Financial loss		2.499***	(0.324)	2.820***	(0.642)	2.323***	(0.275)	2.404***	(0.312)	2.662***	(0.571)	2.641*	(1.225)
Peer exits		1.178†	(0.105)	1.210†	(0.137)	1.173*	(0.086)	1.165	(0.118)	1.147	(0.102)	1.138	(0.108)
Parent size		1.167***	(0.024)	1.201***	(0.025)	1.157***	(0.023)	0.914†	(0.046)	0.967	(0.043)	0.802*	(0.074)
Per capita GDP (000000)		2.643**	(0.983)	4.998***	(1.915)	3.312**	(1.451)	2.643**	(0.969)	2.858**	(0.965)	5.280***	(1.759)
GDP growth		1.068	(0.062)	1.172*	(0.085)	1.070	(0.063)	1.077	(0.064)	1.070	(0.058)	1.156*	(0.077)
FDI as percentage of GDP		1.070*	(0.034)	0.825	(0.162)	1.070*	(0.035)	1.069†	(0.038)	1.069*	(0.033)	0.864	(0.145)
Host country risk		0.954***	(0.013)	0.965	(0.045)	0.950***	(0.015)	0.954*	(0.018)	0.960*	(0.016)	0.967	(0.045)
Bilateral investment treaty		5.257***	(1.319)	2.599*	(1.202)	5.830***	(1.431)	5.145***	(1.269)	5.167***	(1.627)	4.085†	(3.449)
Independent Variables													
Threat	H1			1.050***	(0.011)							1.063***	(0.012)
Exposure	H2			3.102***	(0.644)							3.134***	(0.826)
Irreplaceable resources	H3					1.057	(0.101)					1.193	(0.253)
Immobile resources	H4					0.513***	(0.099)					0.363***	(0.103)
Structuring capabilities	H5							1.057***	(0.016)			1.057	(0.040)
Bundling capabilities	H6							1.177	(0.311)			1.951**	(0.437)
Deploying capabilities	H7							0.950	(0.055)			0.979	(0.085)
Low embeddedness	H8									0.616*	(0.130)	0.504***	(0.104)
Medium embeddedness										0.637	(0.288)	0.838	(0.398)
High embeddedness										0.357***	(0.095)	0.447**	(0.118)
Parent coping mechanisms	H9									1.066***	(0.013)	1.064**	(0.025)
N		597		499		595		597		597		499	
Log pseudolikelihood		-255.547		-177.651		-250.033		-244.66		-241.537		-154.454	
Wald Chi Sq/df		869.12/12***		11343.52/14***		2503.6/14***		1714.13/15***		1147.55/16***		290000/16***	
Δ Wald Chi Sq (from Model 1)				10474.4***		1634.48***		845.01***		278.43***		289130.88***	
Akaike information criterion		547.094		387.303		536.065		525.320		519.075		340.908	
Bayesian information criterion		626.149		454.704		615.059		604.375		598.130		408.310	
Notes: Odds ratios are reported, with robust standard errors clustered by country in brackets. †p<0.10; * p<0.05; ** p<0.01; *** p<0.001 (two-tailed)													
Year dummies are included in all specifications but not reported due to space constraints.													

TABLE B15. Odds Ratios from Logit Models with Whole Exit Baseline

Control Variables	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Ownership type	1.424*	(0.223)	3.477***	(0.802)	1.454*	(0.266)	1.458†	(0.299)	1.402†	(0.277)	5.041***	(1.228)
Subsidiary age	1.007	(0.014)	0.997	(0.024)	1.006	(0.016)	1.017	(0.013)	1.014	(0.017)	1.021	(0.028)
Subsidiary size	1.219	(0.222)	1.153	(0.203)	1.065	(0.189)	1.186	(0.226)	1.261	(0.215)	1.034	(0.241)
Financial break-even	0.540**	(0.119)	0.939	(0.097)	0.563**	(0.113)	0.580**	(0.108)	0.553***	(0.085)	1.608	(1.005)
Financial loss	0.400***	(0.052)	0.355***	(0.081)	0.430***	(0.051)	0.416***	(0.054)	0.376***	(0.081)	0.379*	(0.175)
Peer exits	0.849†	(0.076)	0.827†	(0.094)	0.853*	(0.062)	0.859	(0.087)	0.872	(0.077)	0.879	(0.084)
Parent size	0.857***	(0.018)	0.833***	(0.017)	0.864***	(0.017)	1.094†	(0.055)	1.034	(0.046)	1.246*	(0.114)
Per capita GDP (000000)	0.378**	(0.141)	0.200***	(0.077)	0.302**	(0.132)	0.378**	(0.139)	0.350**	(0.118)	0.189***	(0.063)
GDP growth	0.936	(0.054)	0.853*	(0.062)	0.935	(0.055)	0.929	(0.055)	0.935	(0.051)	0.865*	(0.057)
FDI as percentage of GDP	0.934*	(0.029)	1.212	(0.238)	0.935*	(0.031)	0.936†	(0.033)	0.935*	(0.029)	1.157	(0.194)
Host country risk	1.048***	(0.015)	1.036	(0.048)	1.053***	(0.016)	1.048*	(0.020)	1.042*	(0.018)	1.034	(0.048)
Bilateral investment treaty	0.190***	(0.048)	0.385*	(0.178)	0.172***	(0.042)	0.194***	(0.048)	0.194***	(0.061)	0.245†	(0.207)
Independent Variables												
Threat	H1		0.952***	(0.010)							0.941***	(0.011)
Exposure	H2		0.322***	(0.067)							0.319***	(0.084)
Irreplaceable resources	H3				0.946	(0.091)					0.838	(0.178)
Immobile resources	H4				1.951***	(0.375)					2.756***	(0.786)
Structuring capabilities	H5						0.946***	(0.014)			0.946	(0.036)
Bundling capabilities	H6						0.850	(0.225)			0.513**	(0.115)
Deploying capabilities	H7						1.053	(0.061)			1.022	(0.089)
Low embeddedness	H8								1.624*	(0.344)	1.983***	(0.409)
Medium embeddedness									1.569	(0.710)	1.193	(0.566)
High embeddedness									2.804***	(0.744)	2.238**	(0.593)
Parent coping mechanisms	H9								0.938***	(0.012)	0.940**	(0.022)
N	597		499		595		597		597		499	
Log pseudolikelihood	-255.547		-177.651		-250.033		-244.66		-241.537		-154.454	
Wald Chi Sq/df	869.12/12***		11343.52/14***		2503.6/14***		1714.13/15***		1147.55/16***		290000/16***	
Δ Wald Chi Sq (from Model 1)			10474.4***		1634.48***		845.01***		278.43***		289130.88***	
Akaike information criterion	547.094		387.303		536.065		525.320		519.075		340.908	
Bayesian information criterion	626.149		454.704		615.059		604.375		598.130		408.310	
Notes: Odds ratios are reported, with robust standard errors clustered by country in brackets. †p<0.10; * p<0.05; ** p<0.01; *** p<0.001 (two-tailed)												
Year dummies are included in all specifications but not reported due to space constraints.												

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